FISCAL YEAR 2011

2011

RECHARGE WATER
QUALITY REPORT

Santa Clara Valley
Water District

2011

RECHARGE WATER QUALITY REPORT

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Executive Summary

This Fiscal Year (FY) 2011 Recharge Water Quality Evaluation summarizes the third year of water quality characterization of selected in-stream and off-stream groundwater recharge facilities managed by the Santa Clara Valley Water District (District). This project supports Board Water Supply Objective 2.1.1: “Aggressively protect groundwater from the threat of contamination and maintain and develop groundwater to optimize reliability and to minimize land subsidence and salt water intrusion.” The primary objectives of this project are to characterize water quality in the District’s groundwater recharge facilities and to identify constituents of concern that may impact groundwater quality. As more data are collected and evaluated, this will allow for an assessment of the potential need for changes in the groundwater monitoring program and/or recharge program.

Recharge facility monitoring supplements other District monitoring efforts, including sampling of reservoirs and groundwater wells. Recharge water quality samples analyzed in FY 2011 indicate that the water is generally of high quality and that the water used for artificial recharge does not appear to be impacted. For the three recharge systems sampled in FY 2011, key water quality indicators (such as TDS, chloride, and nitrate) indicate that recharge water quality is generally of comparable or higher quality than groundwater (Table ES-1). Therefore, no impairment of the underlying groundwater resource is expected as a result of intentional recharge based on the monitoring results during FY 2011.

Sources of water used for artificial groundwater recharge include local runoff captured in reservoirs and water imported into the county from the Sacramento-San Joaquin Delta. Depending on the availability of supplies, District facilities may be receiving either local or imported water, or a blend.

Evaluation of the quality of water used for artificial recharge helps to ensure adequate groundwater resources protection. In FY 2011, water samples were collected from eleven locations in the Stevens Creek, Coyote, and Guadalupe recharge systems. This included samples from Alamitos Creek, Coyote Creek, Ross Creek, Stevens Creek, Coyote Pond, and Main Avenue Pond representing both in-stream and off-stream facilities. Samples were collected from each location over three events in December 2010 (wet season), March 2011 (wet season) and April 2011 (dry season).

Constituents analyzed at all sites include major and minor ions, trace elements (metals), total dissolved solids (TDS), alkalinity, and field measurements of flow rate, temperature, pH, electrical conductivity (specific conductance), dissolved oxygen, and turbidity. These constituents were selected to evaluate the overall recharge water quality to identify any potential adverse impacts to groundwater. Additionally, samples from selected facilities were tested for semi-volatile and volatile organic compounds during the wet season based on the proximity and types of potentially contaminating land use activities.

It should be noted that this report only assesses the quality of water at the recharge facilities to evaluate its potential effects on groundwater quality. This analysis does not evaluate the fate and transport of constituents, including any potential geochemical reactions in the subsurface or impacts such as reduction in the infiltration capacity.

Results were compared to established drinking water standards (where applicable) to provide context. In FY 2011, none of the recharge water quality samples analyzed had constituents present above health-based maximum contaminant levels (MCLs). The lowest threshold for aesthetic-based secondary maximum contaminant levels (SMCLs) for TDS and electrical conductivity were exceeded at the Ross Creek site in the Guadalupe system in March and April 2011. This increase in TDS likely resulted from natural local runoff entering Ross Creek since no water was delivered to this facility during the sampling events in March and April. No other sites had constituents above SMCLs; in fact, most were well below these thresholds. There were no volatile or semi-volatile organic compounds detected at any of the sites sampled, and many of the trace metals were also non-detect.

For the three recharge systems sampled in FY 2011, the median concentrations of key water quality indicators (such as TDS, chloride, and nitrate) indicate that recharge water quality is typically of similar or better quality than groundwater (Table ES-1). The exceptions are pH, which is slightly higher in recharge water for all three systems as compared to groundwater, and chloride, which is higher for the Guadalupe recharge system as compared to the median concentration in the Santa Clara Subbasin. Values for pH observed in the recharge systems are within the range of pH for natural waters, but are slightly higher than groundwater. The median chloride concentration of 62.5 mg/L in the Guadalupe recharge system is well below the SMCL of 250 mg/L but is somewhat higher than the median groundwater concentration in the principal zone of the Santa Clara Subbasin (46 mg/L). The higher median for chloride in the Guadalupe system is believed to be primarily due to natural runoff entering Ross Creek. Median TDS values for all three systems were less than 350 mg/L (well below the SMCL of 500 mg/L), indicating high quality with respect to dissolved solids.

Recharge water quality samples analyzed in FY 2011 indicate that the water is generally of high quality and does not appear to be impacted by runoff, trace metals, or salinity. No impairment of the underlying groundwater resource is expected as a result of intentional recharge based on the monitoring results during FY 2011.

TABLE ES-1. Comparison of Median Recharge Water Quality and Groundwater Quality

Parameter	**Units**	**Recharge Water Quality**[1]			**Groundwater Quality**[2]				
					Santa Clara Subbasin			**Llagas Subbasin**	
		Stevens Creek Recharge System	**Guadalupe Recharge System**	**Coyote Recharge System**	**Santa Clara Plain Shallow Zone**	**Santa Clara Plain Principal Zone**	**Coyote Valley**	**Shallow Zone**	**Principal Zone**
Alkalinity (Total, as CaCO3)	mg/L	179	191	146	288	230	200	221	192
Aluminum	mg/L	<20	<20	<20	<50	<50	<50	<20	<50
Chloride	mg/L	17	62.5[4]	21	53.8	46	44.5	44	50
Iron	mg/L	<20	<20	<20	<100	<100	<100	<20	<100
Nitrate (as NO3)	mg/L	0.6	2.51	2.25	6.8	15	9.3	43.9	23
pH[3]	pH Units	8.11	7.87	7.84	7.4	7.6	7.6	7.2	7.41
Sulfate	mg/L	32	43	37.25	55	43	36	51.2	37.5
Total Dissolved Solids (TDS)	mg/L	276	330	268	467	400	340	484	340

1. Based on samples collected in FY 2011. The Stevens Creek system and Guadalupe systems contain facilities that recharge the Santa Clara Subbasin. Most facilities monitored in the Coyote system provide recharge to the Santa Clara Subbasin, although the Main Avenue Ponds recharge the Llagas Subbasin.
2. From 2010 Groundwater Quality Report.
3. Recharge water quality pH data are measured in the field. Groundwater values are laboratory measured values.
4. Increased concentrations are believed to be due to runoff entering Ross Creek (see Section 4).

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2011 RECHARGE WATER QUALITY REPORT

Introduction

1.1 PURPOSE

The purpose of this project is to evaluate the quality of water used at selected in-stream and off-stream groundwater recharge facilities managed by the Santa Clara Valley Water District (District). This project supports Board Water Supply Objective 2.1.1: "Aggressively protect groundwater from the threat of contamination and maintain and develop groundwater to optimize reliability and to minimize land subsidence and salt water intrusion."

This report addresses the recharge water quality sampling conducted for Fiscal Year 2011 (FY 2011), including sampling events conducted in December 2010, March 2011, and April 2011 in accordance the FY 11 monitoring plan.

The primary objectives of this analysis are to characterize recharge water quality and help ensure that groundwater quality is not adversely impacted as a result of artificial groundwater recharge, the sources of which include water imported from the Sacramento-San Joaquin Delta, local reservoir watersheds, and surface runoff from surrounding areas. Specific objectives are to:

- Monitor for constituents of concern that have the potential to impact groundwater.
- Characterize recharge water quality at select facilities, including the comparison between water quality and established drinking water standards.
- Assess the need for changes in the monitoring programs and/or groundwater recharge program.

It should be noted that this report only assesses the water quality at the recharge facilities to assess its potential effects on groundwater quality. This report does not evaluate the fate and transport of the water, including any potential geochemical reactions in the subsurface or impacts such as infiltration capacity reduction.

1.2 BACKGROUND

The District's groundwater recharge program uses untreated local and imported water to replenish the groundwater subbasins through various recharge facilities. The District recharge facility network includes approximately 70 constructed recharge ponds and 23 natural stream-reaches totaling about 70 miles. Generally, in-stream recharge facilities (creeks) convey water to the pond systems via turn outs from their respective reservoirs. The sources of water used for recharge include local runoff captured in 10 local reservoirs and water imported from the Sacramento-San Joaquin Delta. Additional runoff water also enters the recharge facility locally.

The groundwater recharge facilities have been grouped into seven major systems as listed in the 1977 District Groundwater Recharge System Facilities Report. The seven major systems include the Stevens Creek, Westside, Los Gatos, Guadalupe, Coyote, Penitencia, and South County recharge systems.

Each system consists of multiple ponds and stream reaches which replenish groundwater within their respective subbasins. Each system is defined largely on geography and contributing water from Lexington Reservoir via Los Gatos Creek. All recharge systems, except the South County recharge system, can receive both local and imported water. However, not all facilities within a given system can receive both sources. The source water for these facilities can vary from day to day throughout the year depending on supply availability and other factors.

To help ensure adequate protection of groundwater quality, the District has developed a monitoring plan to sample the quality of water at select recharge facilities to evaluate potential effects on groundwater. For the purposes of this evaluation, the focus is on the more common inorganic constituents and the overall quality of the water used for groundwater replenishment.

The District's Watershed Sanitary Survey (WSS) report provides water quality monitoring data from the District's four drinking water reservoirs: Almaden, Calero, Coyote, and Anderson. These reservoirs can also provide water to some recharge facilities. The latest WSS report representing the period from 2001 through 2005 was submitted to the California Department of Public Health (CDPH) in January 2007. This report included monitoring and sampling of dissolved organic carbon, sulfate, total phosphorus, total dissolved solids (TDS), total suspended solids, boron, nitrite, methyl tertiary butyl ether, among others. In the WSS report, the District concluded the overall health of all four reservoirs was acceptable and no significant drinking water quality issues were observed during that monitoring period.

Recharge facility monitoring supplements other District monitoring efforts, including sampling of reservoirs and groundwater wells. While reservoir sampling provides information on the quality of water at the drinking water reservoirs, it does not include all reservoirs used for groundwater recharge and would not capture the influence of potentially contaminating land use activities near groundwater recharge facilities. Groundwater quality monitoring measures the quality of water in wells, but does not directly assess recharge water quality. Monitoring water at groundwater recharge facilities allows for a direct measure of the quality of water being recharged into the groundwater basin and helps to assess any potential effects of local runoff or other land use activities.

1.3 REPORT ORGANIZATION

This report is organized into five sections, including this introduction. Section 2 provides a summary of the recharge water quality monitoring conducted in FY 2011. Section 3 presents the results of monitoring, including comparison to drinking water standards and results for key water quality indicators. Section 4 presents the report conclusion. Section 5 contains all appendices, including figures, tables, and the laboratory Quality Assurance/Quality Control summary.

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2011 RECHARGE WATER QUALITY REPORT

Summary of FY 2011 Recharge Water Quality Monitoring

2.1 OVERVIEW

Ten facilities representing three major recharge systems were sampled three times in FY 2011. To evaluate potential seasonal changes in water quality, sampling was conducted during both the rainy season (the December 2010 and March 2011 sampling events), and the dry season (the April 2011 sampling event). The laboratory analysis was performed by the District laboratory staff. The sections below describe the sites sampled and constituents analyzed, and provide a summary of each sampling event.

2.2 SITE SELECTION

The three systems selected for sampling in FY 2011 were the Stevens Creek, Guadalupe and Coyote recharge systems. As recommended in the monitoring plan, three sites in the Stevens Creek recharge system, two in the Guadalupe recharge system, and five sites in the Coyote recharge system were sampled on three occasions in FY 2011 (Figure 1).

Table 1 lists the specific facilities selected for sampling, the associated potential contaminating activities, and the number of samples collected per site. Several facilities included two sampling points due primarily to the size of the facility, potential recharge capacity, and the need to obtain a representative sample set to compensate for water quality variation within the water body. In some cases, both upstream and downstream samples were collected to determine the influence of runoff from a potential non-point source or potentially contaminating activity (PCA) such as those collected at Stevens Creek located near a golf course and limestone and aggregate quarry.

2.3 CONSTITUENTS ANALYZED

The water quality constituents analyzed in FY 2011 were selected to determine the general overall quality of water used for groundwater replenishment. Common inorganic constituents, some relating to health effects and others to aesthetics, were chosen as the primary focus for this evaluation. Constituents analyzed are grouped into one of three classes as follows: major and minor ions, trace elements, and field measured parameters. Each of the proposed sampling locations was sampled and analyzed for the same set of constituents with the exception of those selected for additional analysis such as volatile organic compounds (VOCs) and semi-volatile compounds (SVOCs).

As major and minor ions comprise the majority of all matter dissolved in natural water, changes in these constituents over time may indicate changing conditions and potentially adverse impacts to groundwater. Though only nitrate and fluoride are associated with known health effects, the other ions largely control the aesthetics of the water. As discussed in Section 3, the measurement and analysis of these constituents together with physical parameters are used to determine possible impacts occurring at the surface which could impact groundwater quality.

Trace elements can adversely affect human health if present in excessive amounts. Other trace elements also affect the aesthetic qualities of water including taste, color, and propensity of staining and scale formation. Eleven constituents in this class have health-based maximum contaminant levels (MCLs) and five have aesthetic-based standards, or secondary maximum contaminant levels (SMCLs).

In addition to these laboratory analyses, field measurements of pH, temperature, electrical conductivity (or specific conductance), turbidity, dissolved oxygen, and flow rate were made. Abnormal pH levels could indicate contamination that may warrant additional investigation. Flow rate is measured to qualify results and also to help explain variations in constituent concentrations.

Testing of VOCs and SVOCs was conducted for the December 2010 and March 2011 sampling events (“wet” events) at sampling locations nearest to industrial and automotive sources or areas where herbicides and pesticides are applied. VOCs and SVOCs were tested at these locations during only wet sampling events to evaluate potential impacts from runoff entering these facilities. The Coyote Creek at Blossom Hill Road site was sampled for VOCs and SVOCs, while the Coyote Creek #2 and Coyote Pond North sites were sampled for VOCs only. Many of the VOCs and SVOCs tested have health-based regulatory standards (MCLs) established by CDPH.

2.4 DECEMBER 2010 SAMPLING (EVENT 1)

The first FY 2011 sampling event was a “wet” sampling event (sampling occurred during or soon after a rain event). Sampling was conducted at various recharge facilities (see Figure 1) on December 13 and 14, 2010. A total of ten samples were submitted to the District laboratory for analysis of major and minor ions, and trace elements as listed in Table 2. At three of the sampling stations (Coyote Creek at Blossom Hill Road, Coyote Creek #2, and Coyote Pond North), SVOC testing was also included. Additionally, the Coyote Creek at Blossom Hill Road station was tested for VOCs. Field measurements of pH, temperature, electrical conductivity, dissolved oxygen, flow rate, and turbidity were collected at all sites.

2.5 MARCH 2011 SAMPLING (EVENT 2)

The second FY 2011 sampling event, which took place on March 8 and 9, 2011, was also a wet sampling event. A total of nine samples were collected and submitted to the District laboratory. This round of sampling was conducted at the same facilities sampled in the first event with the exception of the Main Avenue Pond. The Main Avenue Ponds were not sampled due to a delay in the completion of maintenance work on the Santa Clara Conduit which supplies water to that facility. Samples were analyzed for the same constituents as in the first sampling event. In addition, field measurements of pH, temperature, electrical conductivity, dissolved oxygen, flow rate, and turbidity were collected. Testing for mercury was not conducted due to an omission by the laboratory.

2.6 APRIL 2011 SAMPLING (EVENT 3)

The third FY 2011 sampling event was conducted on April 6 and 7, 2011, and represents a “dry” event (sampling occurred during no rainfall). Sampling took place at the same facilities sampled in the first event with the exception of the Main Avenue Pond, which was inoperable at the time of sampling. The “Main Avenue Pond #2” location was substituted with the “Coyote Pond South” station for this event (Figure 1). Samples were analyzed for the same constituents as the two prior events except that no VOCs or SVOCs analyses were tested as it was a dry event. Field measurements of pH, temperature, electrical conductivity, dissolved oxygen, flow rate, and turbidity were collected. Testing for mercury was not conducted due to an omission by the laboratory.

2.7 QUALITY CONTROL AND QUALITY ASSURANCE

Field sampling Quality Control and Quality Assurance (QA/QC) measures taken during the three sampling events included: calibration of field meters with standardized solutions; the use of disposable sample containers to minimize contamination from prior use of sampling equipment; the use of disposable gloves to minimize contamination from non-sample sources; and proper sampling preservation and reporting including chain of custody protocol. No field QA/QC issues were noted.

Laboratory QA/QC consisted of analyses of four different types of laboratory prepared samples: Laboratory Fortified Blank (LFB), Laboratory Fortified Matrix (LFM), Laboratory Fortified Matrix Duplicate (LFMD), and Quality Control Sample Recovery (QCSR). Review of the QC results did not lead to exclusion of any of the results, with the exception of pH data, which exceeded the hold time. Field measurements for pH were used in this report rather than laboratory analyses. A detailed discussion of the laboratory quality QC tests is presented in Section 5.

3

Recharge Water Quality Results

3.1 OVERVIEW

This section presents a summary of sample results from all three sampling events. The FY 2011 results indicate that the water quality at the District recharge facilities sampled appears suitable for the purposes of groundwater recharge and is not expected to have adverse effects on groundwater quality.

Summary statistics for constituents analyzed in FY 2011 are included in Table 2. A list of field parameters collected during sampling is provided in Table 3. Tables 4, 5, and 6 provide a complete list of analytical results for each sampling event organized by recharge system. Tables 7, 8, and 9 contain median results for key water quality indicators for each recharge system and Table 10 shows the comparison of median recharge water quality results to groundwater quality.

3.2 FIELD PARAMETERS

For FY 2011, field measurements taken at each facility included dissolved oxygen, pH, temperature, turbidity, and specific conductance. Box plots showing the minimum, median and maximum concentrations for all three events observed at each recharge system are illustrated in Figures 2, 3, and 4. Evaluation of the field data indicates that most of the field parameters fluctuate within a fairly small and expected range from event to event. This correlates well with other data collected by the District[1]. One notable exception was a significant increase in turbidity in the Coyote system in April 2011, with the highest recorded turbidity at 39 NTU.

Many of the creeks could not be measured for flow rate due to unsafe conditions as the water levels and stream flow rate increased considerably or where water flow conditions were too low to measure (Table 3).

3.3 COMPARISON OF WATER QUALITY RESULTS TO DRINKING WATER STANDARDS

Water quality standards established by CDPH for drinking water are used for comparison and to provide context for the sample results. These standards define the maximum concentration of specific contaminants that can be present in public water systems. For constituents with known adverse health effects, CDPH has established MCLs. Although there are no MCLs for lead and copper, concentrations are compared to action levels, as defined in the CDPH Lead and Copper Rule. SMCLs are established to address aesthetic issues, such as taste and odor.

No constituents were detected at concentrations above established MCLs during the FY 2011 sampling. Table 2, which contains combined summary statistics for all systems sampled, indicates that the median concentrations for all constituents with health-based standards are well below those thresholds. This includes nitrate, aluminum, arsenic, and other trace elements. Many trace elements were not detected. Table 2 indicates that, with regard to constituents with aesthetic-based SMCLs, median concentrations are generally well below those thresholds when all recharge systems sampled are considered.

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[1] Based on the review of continuous stream data logger information (including pH, temperature, specific conductance, dissolved oxygen and turbidity) collected from both Coyote Creek and Guadalupe River during the winter of 2010 by the Stream Stewardship Unit.

With regard to individual facility results, no constituents were detected at concentrations above established SMCLs with two exceptions. TDS at the Ross Creek station in the Guadalupe recharge system was measured at 632 milligrams per liter (mg/L) in March and 556 mg/L in April, above the lower, recommended threshold of the SMCL (500 mg/L). However, the median TDS value for all sites sampled in the Guadalupe system in FY 2011 ranged from 330 mg/L to 442 mg/L (Table 8). Specific conductance at the Ross Creek station was 1,120 micro-Siemens per centimeter (uS/cm) in March and 975 uS/cm in April, above the lower, recommended SMCL threshold of 900 uS/cm.

According to the water operations logs for Ross Creek, no water was delivered to Ross Creek during the sampling events in March or April 2011, so the elevated TDS and specific conductance are believed to result from surface runoff entering the facility or represent natural conditions within the stream. Although the March and April results for Ross Creek were above the lower SMCL thresholds for TDS and specific conductance, they were below the higher thresholds of 1,000 mg/L and 1,600 mg/L, respectively. Monitoring of the Guadalupe system will occur again in FY 2014, and additional data will be helpful in understanding natural conditions for the Ross Creek station.

3.4 MAJOR ION COMPOSITION

Water quality typing is a way to characterize water and can be helpful to understand sources and mixing of different waters. Based on reported ion concentrations, water types were determined for each recharge system and each sampling event to ascertain the general mineral character of the water. SMCLs exist for certain major ions used in water typing including sodium, chloride, and sulfate indicating related taste or aesthetic issues. None of the recharge systems sampled are dominated by these ions. The predominant cations in all three recharge systems are calcium and magnesium and the predominant anion is bicarbonate. For each recharge system, the variation in water types between sampling events is minimal.

3.5 KEY WATER QUALITY INDICATORS

Several key water quality indicators were evaluated to help determine the overall quality of water including TDS, chloride, pH, nitrate, sulfate, total alkalinity, aluminum, and iron.

TDS analysis is a measure of all inorganic mineral salts dissolved in water, and is used to evaluate the quality of water since mineral salts can affect water taste, hardness, and plant health. The median TDS value for both the Stevens Creek and Coyote systems was around 270 mg/L (Tables 7 and 9). As shown in Table 8, the highest median TDS concentration for all events occurred at the Guadalupe system (330 mg/L) primarily due to the high levels in Ross Creek which exceeded the SMCL of 500 mg/L in the March and April 2011 sampling events. These high concentrations were likely due to increased dissolved solids (e.g. chloride, sulfate, alkalinity and nitrate) from natural local runoff in the vicinity of Ross Creek which is densely residential. However, since the median TDS values for each of the three recharge systems was less than 350 mg/L (well below the SMCL of 500 mg/L), no impairment to groundwater is expected and current levels indicate high water quality.

Chloride and sulfate are used as salinity indicators. As shown in Table 10, median chloride and sulfate concentrations in the Stevens Creek and Coyote recharge systems were around 20 mg/L and 35 mg/L, respectively, and were lower than median groundwater concentrations. The median value of chloride in the Guadalupe system is somewhat higher than the median value for the principal aquifer zone of the Santa Clara Subbasin (62.5 versus 46 mg/L, respectively). This is primarily due to the higher chloride concentrations at Ross Creek, which is located in a densely residential area. The contribution from runoff to this creek is almost entirely from paved areas as opposed to the second sampling site located at Alamitos Creek, which is less densely populated and has more natural surface runoff. Studies have shown that urban areas tend to have higher concentrations of constituents including chloride from runoff than non-urban areas[1]. Although the median TDS of 62.5 mg/L in the Guadalupe recharge system is above the median groundwater concentration, it is still well below the SMCL of 250 mg/L. District staff will evaluate groundwater concentrations near Ross Creek to assess localized conditions with respect to TDS.

Changes in basic water quality are evaluated using pH. This is because the pH level has a direct impact on the solubility of metals and the dissociation of weak acids and bases in water. The median pH levels in both the Guadalupe and Coyote systems were lower than that of the Stevens Creek system (7.8 versus 8.1). Overall, the pH concentrations for all recharge systems were higher than the median value for the principal aquifer zone in the Santa Clara Subbasin which was reported at 7.6 in 2010. However, the pH for all recharge system falls within the typical range of 6 to 8.5 for natural waters[2]. Variation in pH values between recharge systems is likely due to the extent of contribution from runoff. In the Stevens Creek system, sampling locations are located near a golf course, open park and residential area.

Nitrate and alkalinity are used to evaluate potential water quality impacts from runoff. The median nitrate levels in the Guadalupe and Coyote recharge systems were around 2 mg/L (as nitrate) and the median for the Stevens Creek system was 0.6 mg/L. The difference between these may be attributed to adjacent land use near the sampling facilities. Overall, nitrate concentrations are well below the median concentration in the Santa Clara Subbasin principal aquifer zone, which was reported at 15 mg/L in 2010 (Table 10). The median alkalinity concentrations for all recharge systems were below 200 mg/L as calcium carbonate ($CaCO_3$). This is slightly lower than the median concentration of 230 mg/L for the Santa Clara Subbasin principal zone. Little variation between each recharge system was observed, with the highest reported in the Stevens Creek system.

Lastly, aluminum and iron are used to represent trace metals and are of interest because these constituents have been present above SMCLs at some locations in previous sampling events. Median concentrations for aluminum and iron were below the detection limit of 20 mg/L in all recharge systems, and below the median Santa Clara Subbasin principal aquifer zone values of <50 mg/L and <100 mg/L, respectively (Table 10).

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[1] Stormwater Effects Handbook, R. Pitt and G. Burton, 2002.
[2] Study and Interpretation of Chemical Characteristics of Natural Water, J. Hem, 1985.

The analytical results for water quality indicators (and other constituents analyzed) for each site are included in Tables 4 through 6. Analysis of the water quality indicator data was conducted by calculating the median concentrations by recharge system from all three sample events. Median water quality indicator results for all systems sampled in FY 2011 are included in Tables 7 through 9. Table 10 provides a summary comparing each of the three recharge systems median recharge water quality concentrations to 2010 groundwater quality in both the Santa Clara and Llagas Subbasins.

As described above, data for key water quality indicators shows that recharge water quality does not appear to be impacted by runoff, trace metals, or salinity. Some variations in the water quality indicators are observed and are expected based on changes in source water, including the contribution of runoff. It has been well documented that increased loading of solids (suspended and dissolved) often results during and after storm events[1]. Urban runoff can also result in a sharp increase of organic nutrients (i.e. nitrate, carbon, phosphorus, etc)[2]. Other causes of variation could be the effects of dilution and surface water/groundwater mixing. Figures 5 through 7 of this report illustrate the median values for each indicator within each recharge system.

3.6 TRACE ELEMENTS

Nineteen trace elements were analyzed. None of the trace elements for which MCLs and SMCLs exist were detected above their respective standard. Table 2 presents the summary statistics for all recharge systems and the standards used for comparison. Complete analytical results for trace elements are in Tables 4 through 6.

3.7 ORGANIC COMPOUNDS

Semi-volatile organic compounds (SVOCs) were analyzed at the Coyote Creek at Blossom Hill Road, Coyote Creek #2, and Coyote Pond North sites. Volatile organic compounds (VOCs) were analyzed at the Coyote Creek at Blossom Hill Road site. SVOCs and VOCs were analyzed during the wet sampling events in December 2010 and March 2011 and no SVOCs or VOCs were detected in any sample.

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[1] An Overview of Sediment Quality in the United States, EPA, 1987.
[2] Stormwater Effects Handbook, R. Pitt and G. Burton, 2002.

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2011 RECHARGE WATER QUALITY REPORT

Conclusion

Evaluation of the quality of water used for artificial recharge helps ensure adequate protection of groundwater resources. The three systems selected for sampling in FY 2011 were the Stevens Creek, Guadalupe and Coyote recharge systems.

Constituents analyzed at all sites included major and minor ions, trace elements (metals), TDS, and alkalinity. Field measurements of flow rate, temperature, pH, electrical conductivity, dissolved oxygen, and turbidity were also collected. For the two wet events in December and March, three sites included additional tests for VOCs, SVOCs, or both based on the proximity of potentially contaminating land use activities. These constituents were selected to evaluate the overall quality of recharge water to identify potential effects on groundwater quality.

No constituents were detected above health-based MCLs in any recharge water sampled in FY 2011 and concentrations were generally well below these thresholds. The lower aesthetic-based SMCL was exceeded for TDS and specific conductance in March and April 2011 at one site (Ross Creek) in the Guadalupe system. Results were below the upper SMCL threshold for both constituents. No water was delivered to this facility during the sampling events in March and April so this is believed to result from local runoff. No other sites had constituents above SMCLs; in fact, most were well below these thresholds. There were no VOCs or SVOCs detected at any of the sites sampled and many of the trace elements were also non-detect.

Key water quality indicators, including TDS, chloride, and nitrate indicate that the recharge water sampled in FY 2011 is generally of high quality, and is comparable to or better than median groundwater quality. The exceptions are pH, which is slightly higher in recharge water for all three systems as compared to groundwater, and chloride, which is higher for the Guadalupe recharge system as compared to the median concentration in the Santa Clara Subbasin. Values for pH observed in the recharge systems are within the range of pH for natural waters, but are slightly higher than groundwater. The median chloride concentration of 62.5 mg/L in the Guadalupe recharge system is well below the SMCL of 250 mg/L but is somewhat higher than the median groundwater concentration in the principal zone of the Santa Clara Subbasin (46 mg/L). The higher median for chloride in the Guadalupe system is believed to be primarily due to natural runoff entering Ross Creek. Median TDS values for all three systems were less than 350 mg/L (well below the SMCL of 500 mg/L), indicating high quality with respect to dissolved solids. Therefore, no water quality impairment of the underlying groundwater resource is expected as a result of artificial recharge based on the monitoring results during this period.

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2011 RECHARGE WATER QUALITY REPORT

Appendices

APPENDIX A - FIGURES

FIGURE 1. FY 2011 Recharge Facility Sampling Locations

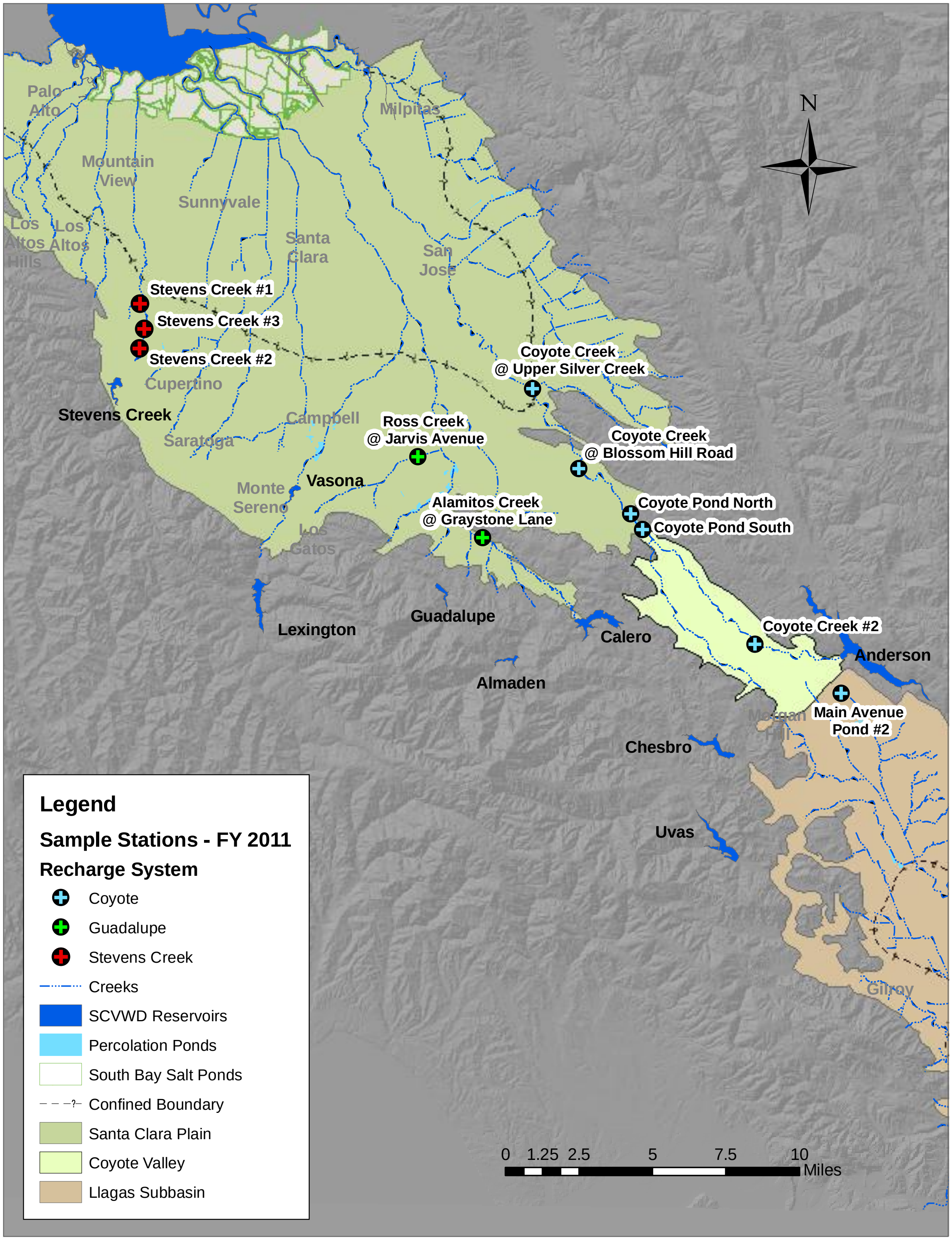


FIGURE 2. Stevens Creek Recharge System Field Parameter Box Plots

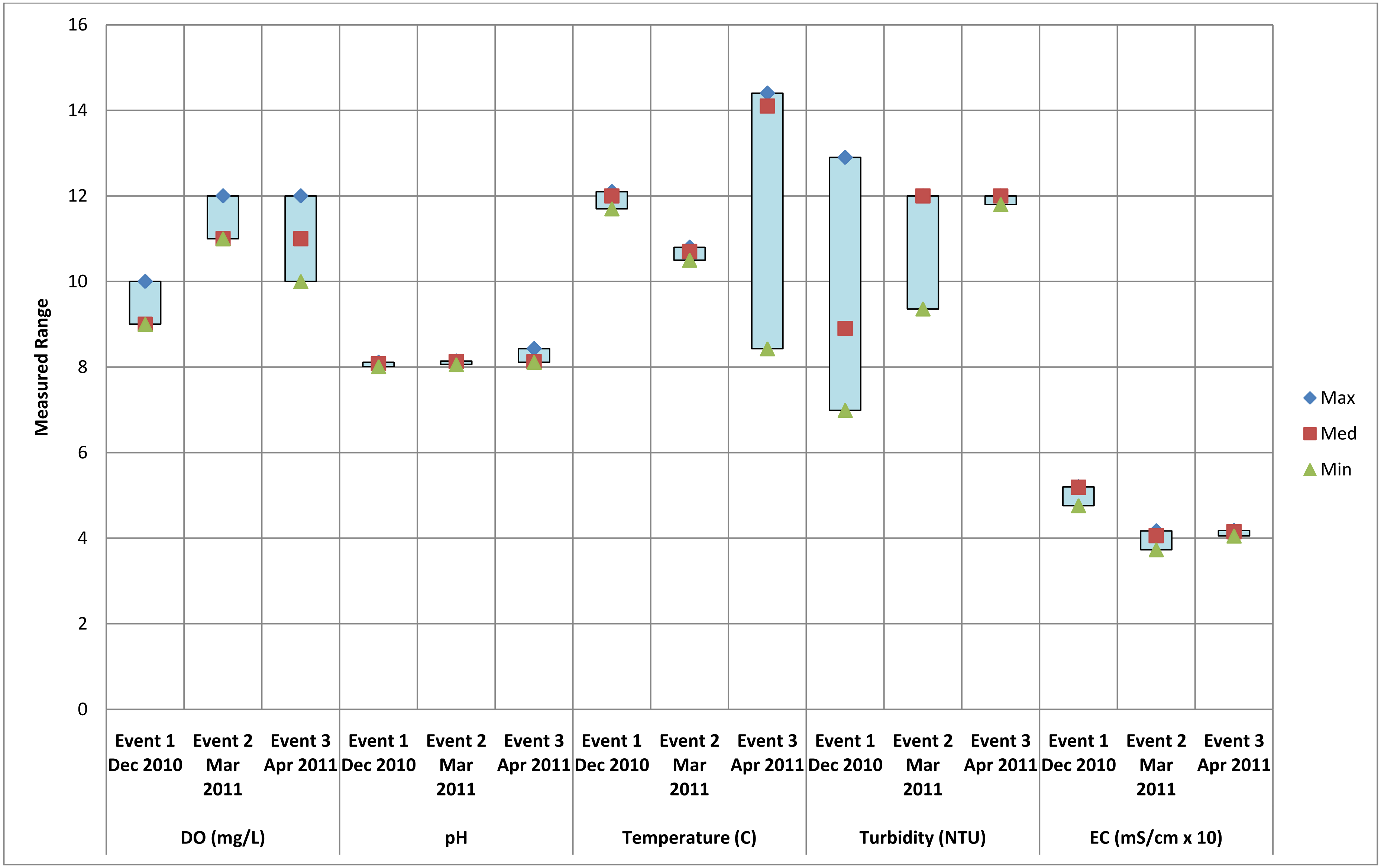


FIGURE 3. Guadalupe Recharge System Field Parameter Box Plots

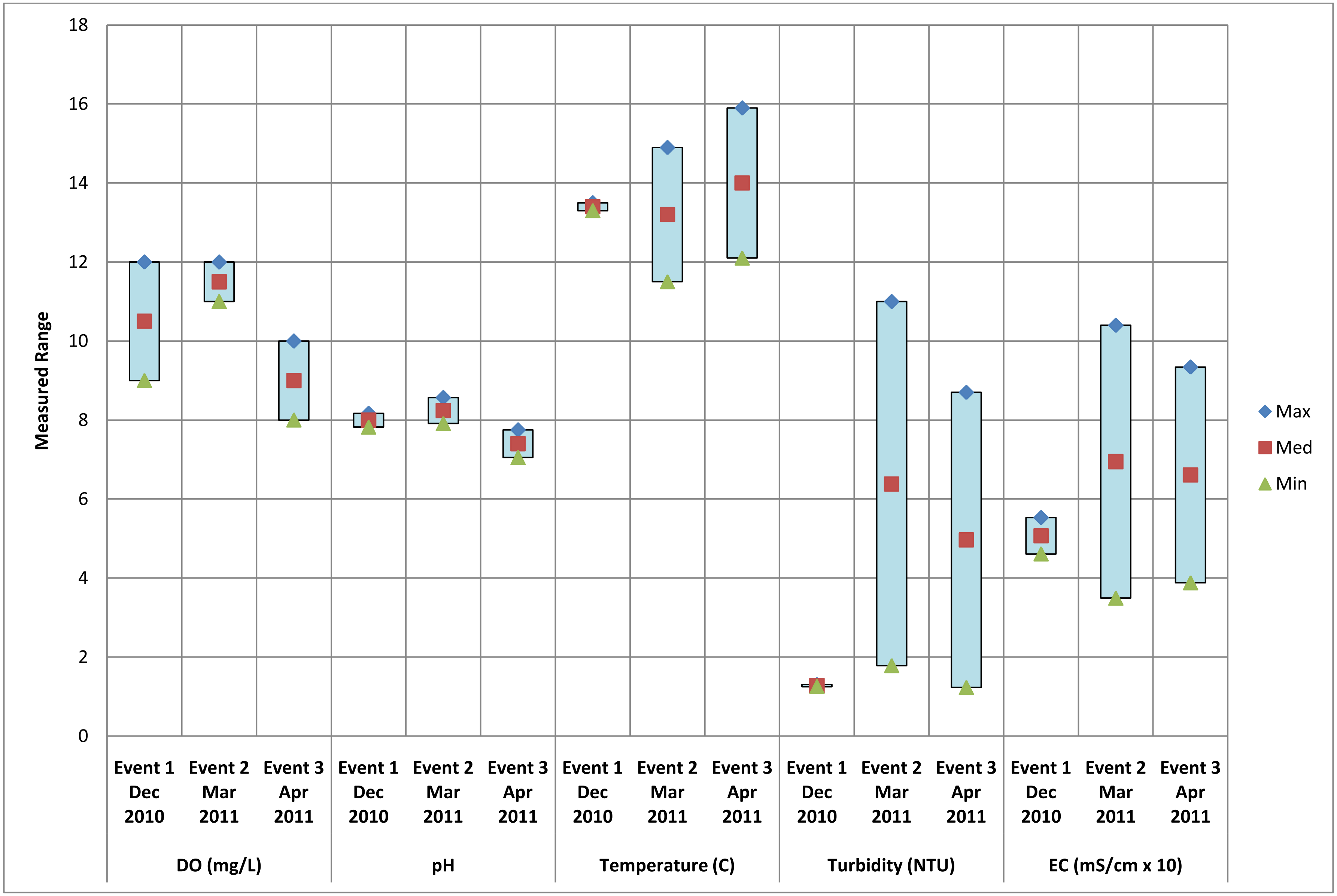


FIGURE 4. Coyote Recharge System Field Parameter Box Plots

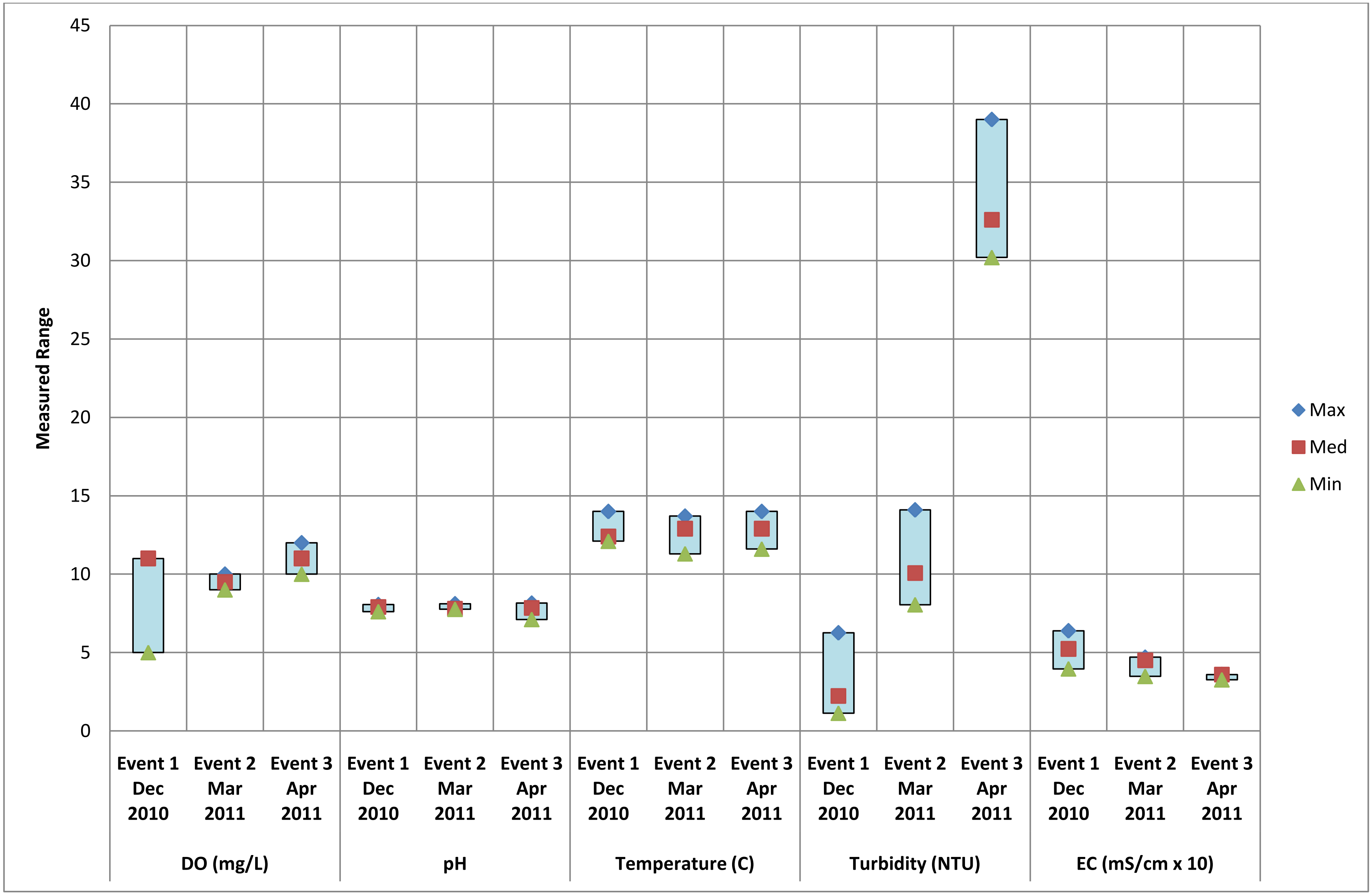
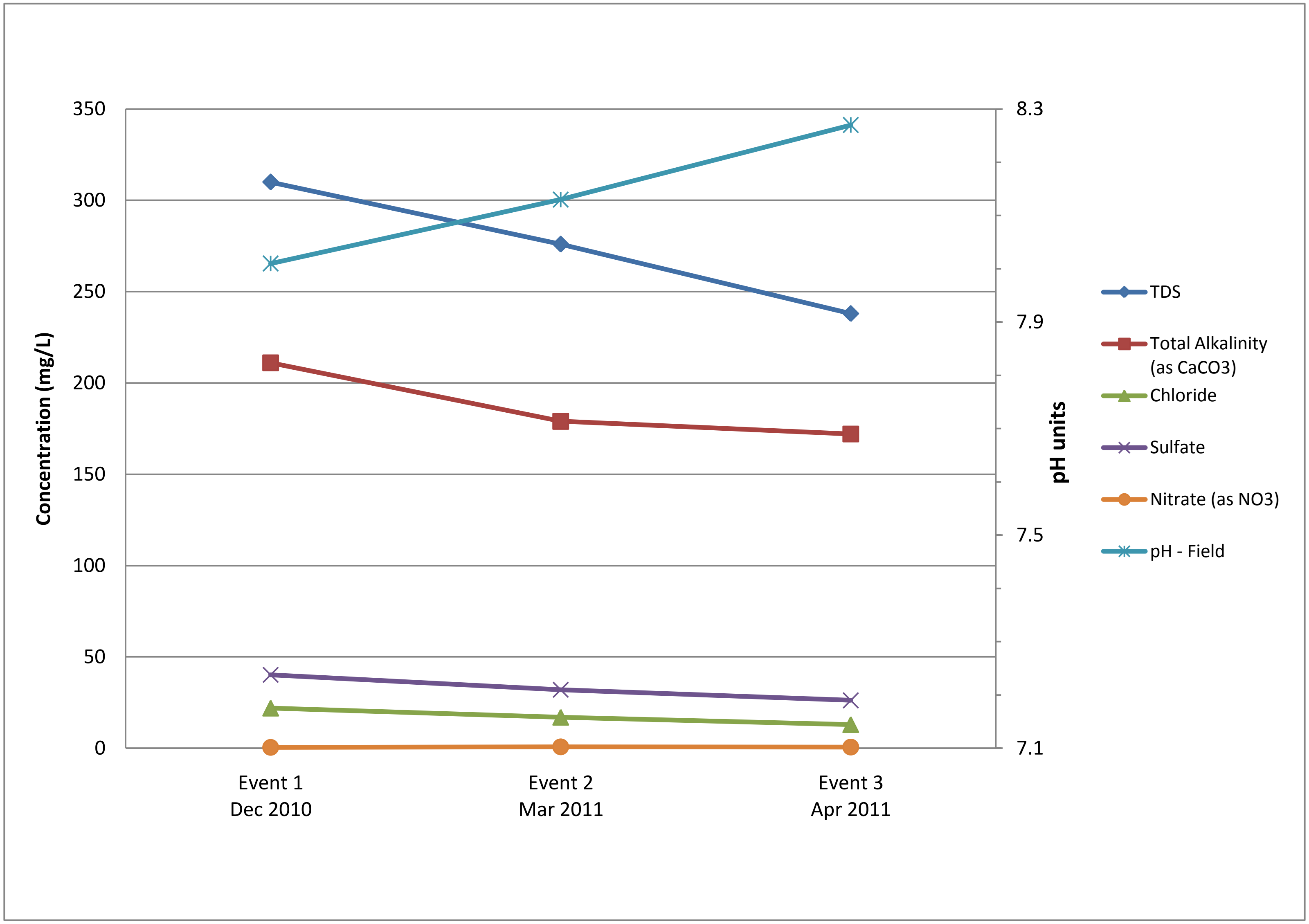
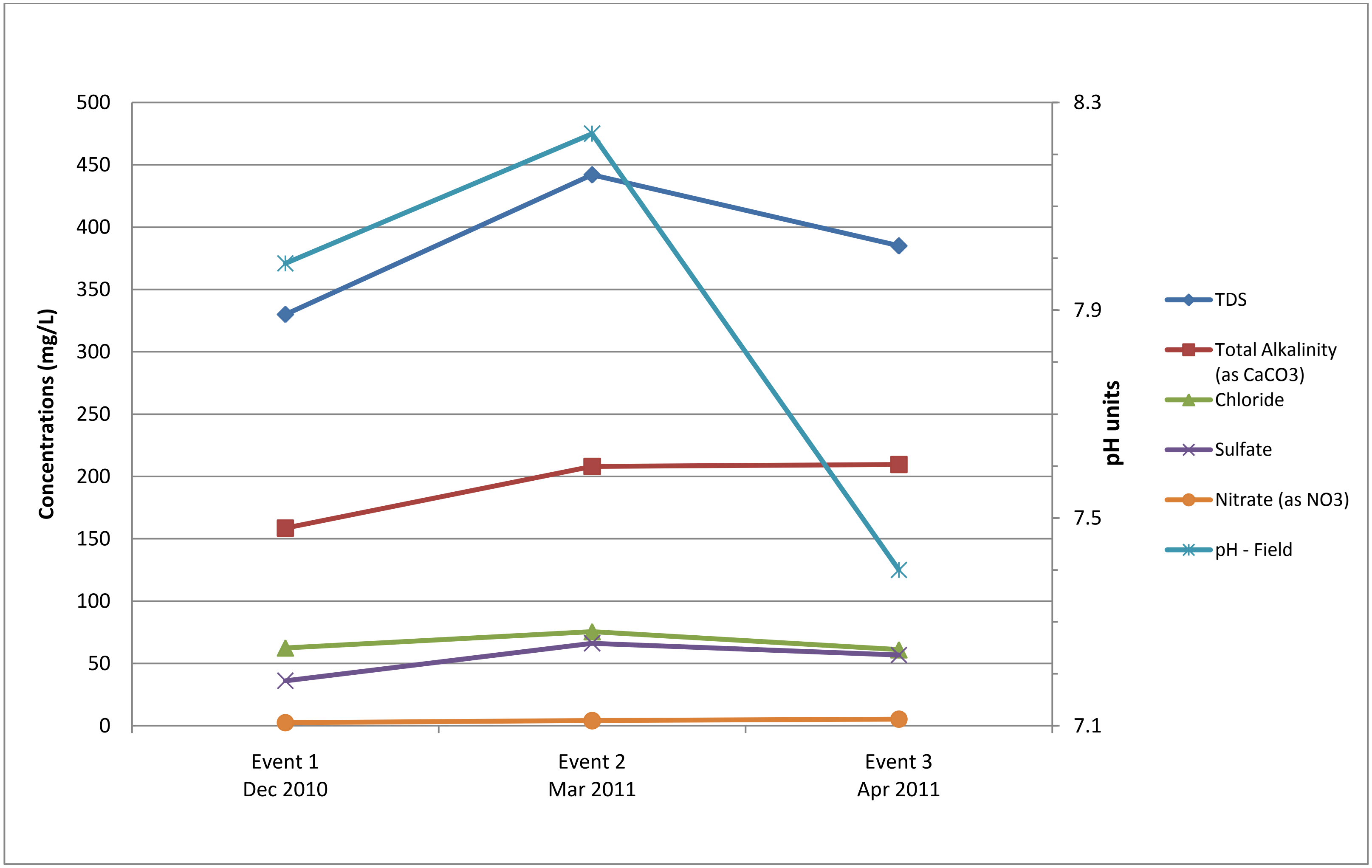


FIGURE 5. Stevens Creek Recharge System Water Quality Indicators



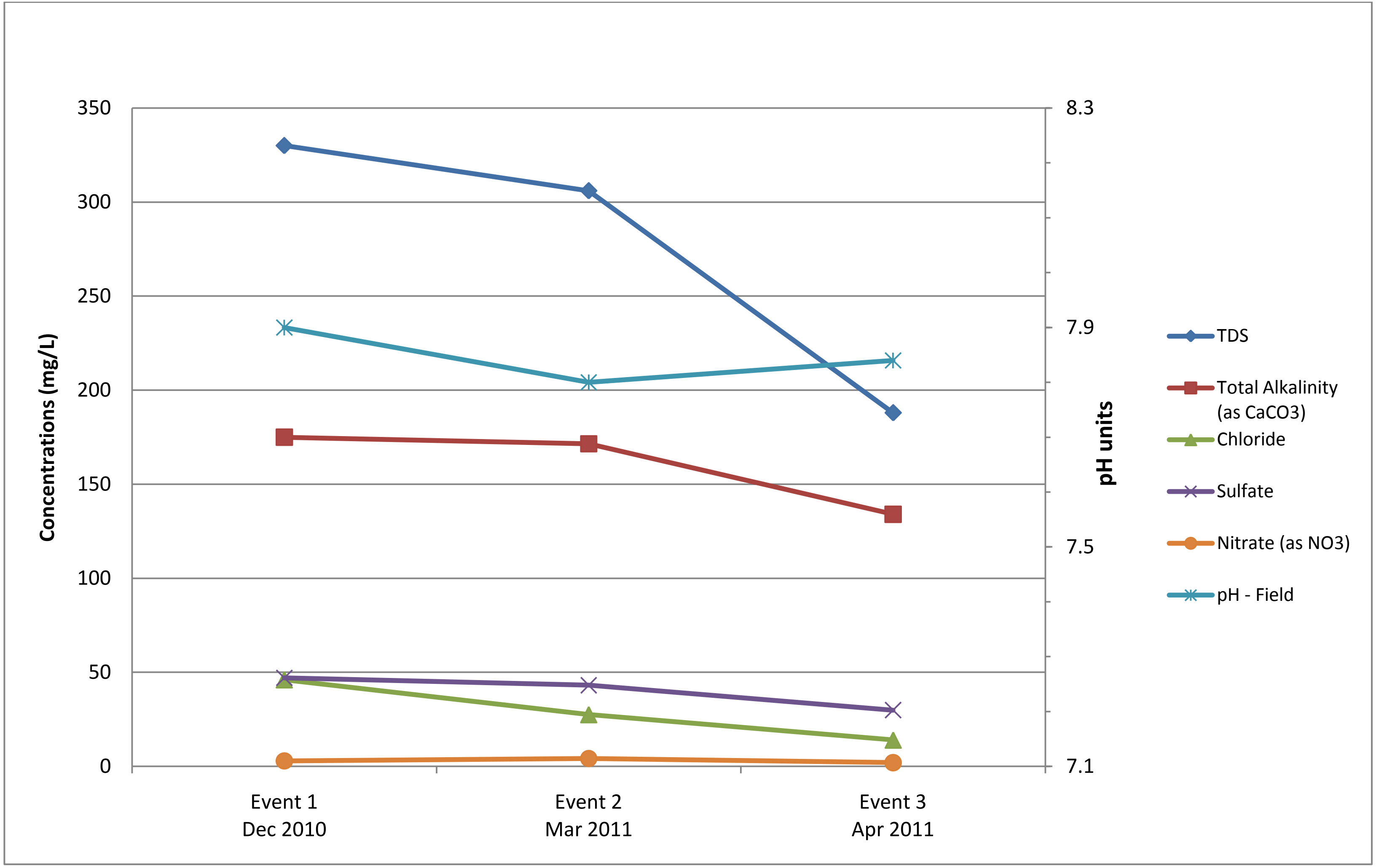
All values represent the median concentration value for all facilities within each recharge system.

FIGURE 6. Guadalupe Recharge System Water Quality Indicators



All values represent the median concentration value for all facilities within each recharge system.

FIGURE 7. Coyote Recharge System Water Quality Indicators



All values represent the median concentration value for all facilities within each recharge system.

APPENDIX B - TABLES

TABLE 1. Recharge Facilities Sampled in Fiscal Year 2011

Facility Name	Potentially Contaminating Activities	Recharge System	Primary Recharge Source	Samples/Site[1]
Coyote Creek	Agriculture, general runoff	Coyote	Anderson Reservoir	3
Coyote and Main Avenue Ponds	Recreational area and recycled water use	Coyote	Anderson Reservoir	2[2]
Alamitos Creek	Former mining, residential	Guadalupe	Almaden Reservoir	1
Ross Creek	Residential area	Guadalupe	Local drainage/ imported water	1
Stevens Creek	Residential, quarry and golf course	Stevens Creek	Stevens Creek Reservoir	3

1. Indicates the number of samples collected per site for each event. Three sampling events were conducted in FY 2011.
2. The Main Avenue Pond facility was not sampled after the first event due to maintenance activities. An additional sample was taken at the Coyote Ponds for the third event.

TABLE 2. FY11 – Summary Statistics for FY 2011 Recharge Water Quality Sampling (All Recharge Systems)

Constituent	Unit	Threshold Type[1]	Threshold	25th Percentile	50th Percentile (median)	75th Percentile	Mean[2]	Standard Deviation[2]
Major Ions and Physical Properties								
Alkalinity (Total) as CaCO3	mg/L	NA	NA	141	173	179	167	41.1
Alkalinity- Bicarbonate (as CaCO3)	mg/L	NA	NA	141	173	179	163.4	34.8
Alkalinity- Carbonate (as CaCO3)	mg/L	NA	NA	<5	<5	<5	--	--
Alkalinity- Hydroxide (as CaCO3)	mg/L	NA	NA	<5	<5	<5	--	--
Bromide	mg/L	NA	NA	0.02	0.04	0.09	0.07	0.11
Calcium	mg/L	NA	NA	33.2	44.7	50.9	43.6	13.1
Chloride	mg/L	SMCL	250 (500)	15	19	37	35.1	33.2
Hardness (total) as CaCO3	mg/L	NA	NA	169	189	201	200.2	63.5
Magnesium	mg/L	NA	NA	16.3	18.4	26	22.8	8.7
Nitrate (as NO3)	mg/L	MCL	45	0.62	1.74	5	2.9	2.8
Phosphate-ortho	mg/L	NA	NA	0.03	0.05	0.08	0.08	0.05
Potassium	mg/L	NA	NA	1.3	1.8	2	2	0.61
Silica	mg/L	NA	NA	13.9	15.1	15.9	14.9	2.7
Sodium	mg/L	NA	NA	18	21.6	29.7	28.9	17.4
Specific conductance (Electrical Conductivity)	uS/cm	SMCL	900 (1600)	428	498	563	531.4	164.4
Sulfate	mg/L	SMCL	250 (500)	30.4	34.4	44	40.7	20.1
Total filterable residue @ 180 C (TDS)	mg/L	SMCL	500 (1000)	252	284	320	299.8	93.2
Trace Elements								
Aluminum	ug/L	MCL (SMCL)	200 (1000)	<20	<20	<20	--	--
Antimony	ug/L	MCL	6	<2	<2	<2	--	--
Arsenic	ug/L	MCL	10	1.5	1.79	2.1	1.8	0.42
Barium	ug/L	MCL	1000	66.1	88.7	95.9	83.4	20.5
Beryllium	ug/L	MCL	4	<1	<1	<1	--	--
Boron	ug/L	NA	NA	98.4	121	125	118	20.2
Cadmium	ug/L	MCL	5	<1	<1	<1	--	--
Chromium- (total)	ug/L	MCL	50	<1	<1	<1	--	--
Cobalt	ug/L	NA	NA	<5	<5	<5	--	--
Copper	ug/L	AL	1300	<2	<2	<2	--	--
Fluoride (natural source)	mg/L	MCL	2	0.1	0.13	0.17	0.15	0.06
Iron	ug/L	SMCL	300	<20	<20	<20	--	--

Constituent	Unit	Threshold Type[1]	Threshold	25th Percentile	50th Percentile (median)	75th Percentile	Mean[2]	Standard Deviation[2]
Trace Elements (continued)								
Lead	ug/L	AL	50	<2	<2	<2	--	--
Lithium	ug/L	NA	NA	4.9	6.2	7.7	6.6	2.2
Manganese	ug/L	SMCL	50	<10	<10	<10	--	--
Mercury	ug/L	MCL	2	<1	<1	<1	--	--
Molybdenum	ug/L	NA	NA	<5	<5	<5	--	--
Nickel	ug/L	MCL	100	2.1	2.6	3.2	2.7	0.86
Selenium	ug/L	MCL	50	<5	<5	<5	--	--
Silver	ug/L	SMCL	100	<2	<2	<2	--	--
Thallium	ug/L	MCL	2	<1	<1	<1	--	--
Vanadium	ug/L	NA	NA	1.9	2.4	3.1	2.6	0.94
Zinc	ug/L	SMCL	5000	<10	<10	<10	--	--
Field Measured Parameters								
Dissolved oxygen	mg/L	NA	NA	10	10.5	11	10.6	0.86
pH- field	pH units	NA	NA	7.82	8.06	8.11	7.97	0.17
Specific conductance -field	uS/cm	NA	900 (1600)	388	418	468	469	155
Temperature	^{o}C	NA	NA	11.6	12.6	14	12.7	1.3
Turbidity- field	NTU	NA	NA	8.05	9.74	12	11.39	9.46

Notes:

1. MCL=Maximum Contaminant Level, or health-based standard, set by the CDPH. SMCL=Secondary Maximum Contaminant Level, or aesthetic-based standard, set by CDPH. For SMCLs having a range, the lower, recommended threshold is listed, with the upper threshold in parentheses; AL = CDPH Action Level per the Lead and Copper Rule; NA = not applicable;

2. "—" indicates that mean and standard deviation were not estimated due to large percentage (>75%) of non-detectable data.

When some of the results (but not all) were below detection limits the maximum likelihood estimation (MLE) process was used.

Semi-volatile and volatile organic compounds were excluded since all results were below detection limits.

mg/L= milligrams per liter equivalent to parts per million or ppm; ug/L= micrograms per liter equivalent to parts per billion or ppb, uS/cm= micro-Siemens per centimeter; NTU=Nephelometric Turbidity Units; ^{o}C=degrees centigrade.

TABLE 3. Field Parameters

Recharge System	Station ID	Station Name	Date	Dissolved Oxygen	pH, Field	Source Temperature	Specific Conductance	Turbidity, Field	Flow Rate
				(mg/L)	(pH units)	(°C)	(mS/cm x 10)	(NTU)	(CFS)
Stevens Creek	1029_457+65	Stevens Creek #1	12/13/10	9	8.08	12.1	5.200	8.90	Not measured, deep
			3/8/11	11	8.13	10.7	4.060	9.36	12
			4/6/11	10	8.43	13.9	4.180	11.80	Not measured, deep
	1029_572+51	Stevens Creek #2	12/13/10	10	8.00	11.7	4.760	12.90	6.9
			3/8/11	12	8.06	10.5	3.730	12.10	10
			4/6/11	12	8.11	14.4	4.050	12.00	29
	1029_514+81	Stevens Creek #3	12/13/10	9	8.01	12.0	5.190	6.99	6.3
			3/8/11	12	8.14	10.8	4.170	12.60	9.4
			4/6/11	11	8.13	14.1	4.150	12.00	40.5
Guadalupe	3010_110+803	Alamitos Creek @ Graystone Lane	12/13/10	9	7.82	13.5	4.610	1.30	11.21
			3/8/11	11	7.91	11.5	3.490	11.00	37
			4/6/11	10	7.05	12.1	3.880	8.70	45.3
	3023_40+395	Ross Creek @ Jarvis Avenue	12/13/10	12	8.17	13.3	5.530	1.25	1.68
			3/8/11	12	8.57	14.9	10.400	1.78	Not measured, still
			4/6/11	8	7.75	15.9	9.340	1.23	1.1

TABLE 3. Field Parameters (continued)

Recharge System	Station ID	Station Name	Date	Dissolved Oxygen (mg/L)	pH, Field (pH units)	Source Temperature (°C)	Specific Conductance (mS/cm x 10)	Turbidity, Field (NTU)	Flow Rate (CFS)
Coyote Creek	4021_1290+57	Coyote Creek @ Upper Silver Creek	12/14/10	5	7.61	12.4	6.390	1.80	1.6
			3/9/11	9	7.77	13.2	4.700	8.05	33
			4/7/11	11	7.11	13.2	3.600	32.60	Not measured, fast
	4021_1510+00	Coyote Creek @ Blossom Hill Road	12/14/10	11	7.83	12.1	5.090	2.25	3.34
			3/9/11	10	7.76	12.6	4.310	9.74	48
			4/7/11	12	7.74	12.9	3.590	33.60	Not measured, fast
	4021_2046+08	Coyote Creek #2	12/14/10	11	7.96	12.4	3.960	1.13	28
			3/9/11	10	8.11	11.3	3.480	14.10	Not measured, fast
			4/7/11	--	8.15	11.6	3.262	31.50	Not measured, fast
	9248_NA	Coyote Pond North	12/14/10	10	7.90	12.9	5.770	6.26	Not measured, still
			3/9/11	9	7.83	13.7	4.690	10.40	Not measured, still
			4/7/11	10	8.09	12.6	3.580	30.20	Not measured, still
	9248_S	Coyote Pond South	4/7/11	11	7.84	14.0	3.600	39.00	Not measured, still
	9256_2	Main Avenue Pond #2	12/14/10	11	8.06	14.0	5.230	2.23	Not measured, still

Notes: mg/L= milligrams per liter; mS/cm= milli-Siemens per centimeter;
NTU=Nephelometric Turbidity Units; ^{o}C=degrees centigrade; CFS=cubic feet per second.

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010

Stevens Creek Recharge System Station Name		Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
Station ID		1029_457+65	1029_572+51	1029_514+81
Parameter	**Result Unit**			
1-1-1-2-TETRACHLORETHANE	ug/L	NA	NA	NA
1-1-1-TRICHLOROETHANE	ug/L	NA	NA	NA
1-1-2-2-TETRACHLOROETHANE	ug/L	NA	NA	NA
1-1-2-TRICHLORO-1-2-2-TRIFLUOROETHANE (FREON 113)	ug/L	NA	NA	NA
1-1-2-TRICHLOROETHANE	ug/L	NA	NA	NA
1-1-DICHLOROETHANE	ug/L	NA	NA	NA
1-1-DICHLOROETHYLENE	ug/L	NA	NA	NA
1-1-DICHLOROPROPENE	ug/L	NA	NA	NA
1-2-3-TRICHLOROBENZENE	ug/L	NA	NA	NA
1-2-3-TRICHLOROPROPANE	ug/L	NA	NA	NA
1-2-4-TRICHLOROBENZENE	ug/L	NA	NA	NA
1-2-4-TRIMETHYLBENZENE	ug/L	NA	NA	NA
1-2-DICHLOROBENZENE	ug/L	NA	NA	NA
1-2-DICHLOROETHANE	ug/L	NA	NA	NA
1-2-DICHLOROPROPANE	ug/L	NA	NA	NA
1-3-5-TRIMETHYLBENZENE	ug/L	NA	NA	NA
1-3-DICHLOROBENZENE	ug/L	NA	NA	NA
1-3-DICHLOROPROPANE	ug/L	NA	NA	NA
1-3-DICHLOROPROPENE (TOTAL)	ug/L	NA	NA	NA
1-4-DICHLOROBENZENE	ug/L	NA	NA	NA
1-PHENYLPROPANE (N-PROPYLBENZENE)	ug/L	NA	NA	NA
2-2-DICHLOROPROPANE	ug/L	NA	NA	NA
2-CHLOROTOLUENE	ug/L	NA	NA	NA
4-4-DDD	ug/L	NA	NA	NA
4-4-DDE	ug/L	NA	NA	NA
4-4-DDT	ug/L	NA	NA	NA
4-CHLOROTOLUENE	ug/L	NA	NA	NA
ACENAPHTHENE	ug/L	NA	NA	NA
ACENAPHTHYLENE	ug/L	NA	NA	NA
ACETOCHLOR	ug/L	NA	NA	NA
ALACHLOR	ug/L	NA	NA	NA
ALDRIN	ug/L	NA	NA	NA
ALKALINITY (TOTAL) AS CACO3	mg/L	211	208	213
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	211	208	213
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	<5	<5
ALPHA-BHC	ug/L	NA	NA	NA
ALPHA-CHLORDANE	ug/L	NA	NA	NA
ALUMINUM	ug/L	<20	<20	<20
ANTHRACENE	ug/L	NA	NA	NA
ANTIMONY	ug/L	<2	<2	<2
ARSENIC	ug/L	<2	<2	<2

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Stevens Creek Recharge System Station Name		Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
Station ID		1029_457+65	1029_572+51	1029_514+81
Parameter	**Result Unit**			
ATRAZINE	ug/L	NA	NA	NA
BARIUM	ug/L	130	140	130
BENZENE	ug/L	NA	NA	NA
BENZO (A) ANTHRACENE	ug/L	NA	NA	NA
BENZO (A) PYRENE	ug/L	NA	NA	NA
BENZO (B) FLUORANTHENE	ug/L	NA	NA	NA
BENZO (GHI) PERYLENE	ug/L	NA	NA	NA
BENZO (K) FLUORANTHENE	ug/L	NA	NA	NA
BENZYL BUTYL PHTHALATE	ug/L	NA	NA	NA
BERYLLIUM	ug/L	<1	<1	<1
BETA-BHC	ug/L	NA	NA	NA
BORON	ug/L	186	190	193
BROMACIL	ug/L	NA	NA	NA
BROMIDE	mg/L	<0.05	<0.05	<0.05
BROMOBENZENE	ug/L	NA	NA	NA
BROMOCHLOROMETHANE	ug/L	NA	NA	NA
BROMODICHLOROMETHANE (THM)	ug/L	NA	NA	NA
BROMOFORM (THM)	ug/L	NA	NA	NA
BROMOMETHANE	ug/L	NA	NA	NA
BUTANEX BUTACHLOR	ug/L	NA	NA	NA
CADMIUM	ug/L	<1	<1	<1
CALCIUM	mg/L	56.5	54.2	57.5
CALCIUM AS CACO3	mg/L	141	136	144
CARBON TETRACHLORIDE	ug/L	NA	NA	NA
CHLORIDE	mg/L	24	20	22
CHLOROBENZILATE	ug/L	NA	NA	NA
CHLOROETHANE	ug/L	NA	NA	NA
CHLOROFORM (THM)	ug/L	NA	NA	NA
CHLOROMETHANE	ug/L	NA	NA	NA
CHLORONEB	ug/L	NA	NA	NA
CHLOROTHALONIL	ug/L	NA	NA	NA
CHLORPYRIFOS	ug/L	NA	NA	NA
CHLORTHAL	ug/L	NA	NA	NA
CHROMIUM- (TOTAL)	ug/L	<5	<5	<5
CHRYSENE	ug/L	NA	NA	NA
CIS-1-2-DICHLOROETHYLENE	ug/L	NA	NA	NA
CIS-1-3-DICHLOROPROPENE	ug/L	NA	NA	NA
cis-PERMETHRIN	ug/L	NA	NA	NA
COBALT	ug/L	<5	<5	<5
COPPER	ug/L	<5	<5	<5
DDVP	ug/L	NA	NA	NA
DELTA-BHC	ug/L	NA	NA	NA
DI(2-ETHYLHEXYL)ADIPATE	ug/L	NA	NA	NA
DI(2-ETHYLHEXYL)PHTHALATE	ug/L	NA	NA	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Stevens Creek Recharge System Station Name		Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
Station ID		1029_457+65	1029_572+51	1029_514+81
Parameter	Result Unit			
DIBENZO (A-H) ANTRACENE	ug/L	NA	NA	NA
DIBROMOCHLOROMETHANE (THM)	ug/L	NA	NA	NA
DIBROMOMETHANE	ug/L	NA	NA	NA
DICHLORODIFLUOROMETHANE (FREON 12)	ug/L	NA	NA	NA
DICHLOROMETHANE	ug/L	NA	NA	NA
DIELDRIN	ug/L	NA	NA	NA
DIETHYL PHTHALATE	ug/L	NA	NA	NA
DIISOPROPYL ETHER	ug/L	NA	NA	NA
DIMETHYL PHTHALATE	ug/L	NA	NA	NA
DI-N-BUTYLPHTHALATE	ug/L	NA	NA	NA
DI-N-OCTYLPHTHALATE	ug/L	NA	NA	NA
ENDOSULFAN I	ug/L	NA	NA	NA
ENDOSULFAN II	ug/L	NA	NA	NA
ENDOSULFAN SULFATE	ug/L	NA	NA	NA
ENDRIN	ug/L	NA	NA	NA
ENDRIN ALDEHYDE	ug/L	NA	NA	NA
ENDRIN KETONE	ug/L	NA	NA	NA
EPTC	ug/L	NA	NA	NA
ETHYL PARATHION	ug/L	NA	NA	NA
ETHYLBENZENE	ug/L	NA	NA	NA
ETHYL-TERT-BUTYL ETHER	ug/L	NA	NA	NA
FLUORANTHENE	ug/L	NA	NA	NA
FLUORENE	ug/L	NA	NA	NA
FLUORIDE (NATURAL SOURCE)	mg/L	0.16	0.15	0.15
GAMMA-BHC (LINDANE)- TOTAL	ug/L	NA	NA	NA
GAMMA-CHLORDANE	ug/L	NA	NA	NA
HEPTACHLOR	ug/L	NA	NA	NA
HEPTACHLOR EPOXIDE (Isomer A)	ug/L	NA	NA	NA
HEPTACHLOR EPOXIDE (Isomer B)	ug/L	NA	NA	NA
HEXACHLOROBENZENE	ug/L	NA	NA	NA
HEXACHLOROBUTADIENE	ug/L	NA	NA	NA
HEXACHLOROCYCLOPENTADIENE	ug/L	NA	NA	NA
HYDROXIDE ALKALINITY	mg/L	<5	<5	<5
IRON	ug/L	<20	<20	<20
ISOPHORONE	ug/L	NA	NA	NA
ISOPROPYLBENZENE	ug/L	NA	NA	NA
LEAD	ug/L	<2	<2	<2
LITHIUM	ug/L	6	6	6.3
MAGNESIUM	mg/L	23.8	22.6	24
MALATHION	ug/L	NA	NA	NA
MANGANESE	ug/L	<5	8.136	<5
MERCURY	ug/L	<1	<1	<1
METHOXYCHLOR	ug/L	NA	NA	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Stevens Creek Recharge System Station Name		Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
Station ID		1029_457+65	1029_572+51	1029_514+81
Parameter	**Result Unit**			
METHYL-TERT-BUTYL-ETHER (MTBE)	ug/L	NA	NA	NA
METOLACHLOR	ug/L	NA	NA	NA
METRIBUZIN	ug/L	NA	NA	NA
MOLINATE	ug/L	NA	NA	NA
MOLYBDENUM	ug/L	<5	<5	<5
MONOCHLOROBENZENE	ug/L	NA	NA	NA
M-P-XYLENE	ug/L	NA	NA	NA
NAPHTHALENE	ug/L	NA	NA	NA
N-BUTYLBENZENE	ug/L	NA	NA	NA
NICKEL	ug/L	<5	<5	<5
NITRATE (AS NO3)	mg/L	0.559	0.079	0.452
O-XYLENE	ug/L	NA	NA	NA
PENTACHLOROPHENOL	ug/L	NA	NA	NA
PH- Laboratory	pH units	8.2	8.1	8.1
PHENANTHRENE	ug/L	NA	NA	NA
PHOSPHATE- ORTHO	mg/L	<0.05	<0.05	<0.05
P-ISOPROPYLTOLUENE	ug/L	NA	NA	NA
POTASSIUM	mg/L	1.5	1.4	1.5
PROMETRYN	ug/L	NA	NA	NA
PROPACHLOR	ug/L	NA	NA	NA
PYRENE	ug/L	NA	NA	NA
SEC-BUTYLBENZENE	ug/L	NA	NA	NA
SELENIUM	ug/L	<5	<5	<5
SILICA	mg/L	14.2	12.9	13.9
SILVER	ug/L	<5	<5	<5
SIMAZINE	ug/L	NA	NA	NA
SODIUM	mg/L	23.7	21.9	23.1
SPECIFIC CONDUCTANCE	uS/cm	549	526	532
STYRENE	ug/L	NA	NA	NA
SULFATE	mg/L	40.8	39.3	40.2
TERBACIL	ug/L	NA	NA	NA
TERT-AMYL-METHYL ETHER	ug/L	NA	NA	NA
TERT-BUTYL ALCOHOL	ug/L	NA	NA	NA
TERT-BUTYLBENZENE	ug/L	NA	NA	NA
TETRACHLOROETHYLENE	ug/L	NA	NA	NA
THALLIUM	ug/L	<1	<1	<1
THIOBENCARB	ug/L	NA	NA	NA
TOLUENE	ug/L	NA	NA	NA
TOTAL FILTERABLE RESIDUE @ 180 C (TDS)	mg/L	302	310	316
TRANS-1-2-DICHLOROETHYLENE	ug/L	NA	NA	NA
TRANS-1-3-DICHLOROPROPENE	ug/L	NA	NA	NA
TRANS-NONACHLOR	ug/L	NA	NA	NA
TRANS-PERMETHRIN	ug/L	NA	NA	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Stevens Creek Recharge System Station Name		Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
Station ID		1029_457+65	1029_572+51	1029_514+81
Parameter	**Result Unit**			
TRICHLOROETHYLENE	ug/L	NA	NA	NA
TRICHLOROFLUOROMETHANE (FREON 11)	ug/L	NA	NA	NA
TRIFLURALIN	ug/L	NA	NA	NA
VANADIUM	ug/L	<3	<3	<3
VINYL CHLORIDE	ug/L	NA	NA	NA
XYLENES (TOTAL)	ug/L	NA	NA	NA
ZINC	ug/L	<10	<10	<10

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Guadalupe Recharge System Station Name		**Alamitos Creek @ Graystone Lane**	**Ross Creek @ Jarvis Avenue**
Station ID		**3010_110+803**	**3023_40+395**
Parameter	**Result Unit**		
1-1-1-2-TETRACHLORETHANE	ug/L	NA	NA
1-1-1-TRICHLOROETHANE	ug/L	NA	NA
1-1-2-2-TETRACHLOROETHANE	ug/L	NA	NA
1-1-2-TRICHLORO-1-2-2-TRIFLUOROETHANE (FREON 113)	ug/L	NA	NA
1-1-2-TRICHLOROETHANE	ug/L	NA	NA
1-1-DICHLOROETHANE	ug/L	NA	NA
1-1-DICHLOROETHYLENE	ug/L	NA	NA
1-1-DICHLOROPROPENE	ug/L	NA	NA
1-2-3-TRICHLOROBENZENE	ug/L	NA	NA
1-2-3-TRICHLOROPROPANE	ug/L	NA	NA
1-2-4-TRICHLOROBENZENE	ug/L	NA	NA
1-2-4-TRIMETHYLBENZENE	ug/L	NA	NA
1-2-DICHLOROBENZENE	ug/L	NA	NA
1-2-DICHLOROETHANE	ug/L	NA	NA
1-2-DICHLOROPROPANE	ug/L	NA	NA
1-3-5-TRIMETHYLBENZENE	ug/L	NA	NA
1-3-DICHLOROBENZENE	ug/L	NA	NA
1-3-DICHLOROPROPANE	ug/L	NA	NA
1-3-DICHLOROPROPENE (TOTAL)	ug/L	NA	NA
1-4-DICHLOROBENZENE	ug/L	NA	NA
1-PHENYLPROPANE (N-PROPYLBENZENE)	ug/L	NA	NA
2-2-DICHLOROPROPANE	ug/L	NA	NA
2-CHLOROTOLUENE	ug/L	NA	NA
4-4-DDD	ug/L	NA	NA
4-4-DDE	ug/L	NA	NA
4-4-DDT	ug/L	NA	NA
4-CHLOROTOLUENE	ug/L	NA	NA
ACENAPHTHENE	ug/L	NA	NA
ACENAPHTHYLENE	ug/L	NA	NA
ACETOCHLOR	ug/L	NA	NA
ALACHLOR	ug/L	NA	NA
ALDRIN	ug/L	NA	NA
ALKALINITY (TOTAL) AS CACO3	mg/L	209	108
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	209	108
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	<5
ALPHA-BHC	ug/L	NA	NA
ALPHA-CHLORDANE	ug/L	NA	NA
ALUMINUM	ug/L	<20	<20
ANTHRACENE	ug/L	NA	NA
ANTIMONY	ug/L	<2	<2

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Guadalupe Recharge System Station Name		Alamitos Creek @ Graystone Lane	Ross Creek @ Jarvis Avenue
Station ID		3010_110+803	3023_40+395
Parameter	**Result Unit**		
ARSENIC	ug/L	<2	3
ATRAZINE	ug/L	NA	NA
BARIUM	ug/L	83.299	61.563
BENZENE	ug/L	NA	NA
BENZO (A) ANTHRACENE	ug/L	NA	NA
BENZO (A) PYRENE	ug/L	NA	NA
BENZO (B) FLUORANTHENE	ug/L	NA	NA
BENZO (GHI) PERYLENE	ug/L	NA	NA
BENZO (K) FLUORANTHENE	ug/L	NA	NA
BENZYL BUTYL PHTHALATE	ug/L	NA	NA
BERYLLIUM	ug/L	<1	<1
BETA-BHC	ug/L	NA	NA
BORON	ug/L	153	157
BROMACIL	ug/L	NA	NA
BROMIDE	mg/L	0.06	0.26
BROMOBENZENE	ug/L	NA	NA
BROMOCHLOROMETHANE	ug/L	NA	NA
BROMODICHLOROMETHANE (THM)	ug/L	NA	NA
BROMOFORM (THM)	ug/L	NA	NA
BROMOMETHANE	ug/L	NA	NA
BUTANEX BUTACHLOR	ug/L	NA	NA
CADMIUM	ug/L	<1	<1
CALCIUM	mg/L	36	30.5
CALCIUM AS CACO3	mg/L	90	76.1
CARBON TETRACHLORIDE	ug/L	NA	NA
CHLORIDE	mg/L	29	96
CHLOROBENZILATE	ug/L	NA	NA
CHLOROETHANE	ug/L	NA	NA
CHLOROFORM (THM)	ug/L	NA	NA
CHLOROMETHANE	ug/L	NA	NA
CHLORONEB	ug/L	NA	NA
CHLOROTHALONIL	ug/L	NA	NA
CHLORPYRIFOS	ug/L	NA	NA
CHLORTHAL	ug/L	NA	NA
CHROMIUM- (TOTAL)	ug/L	<5	<5
CHRYSENE	ug/L	NA	NA
CIS-1-2-DICHLOROETHYLENE	ug/L	NA	NA
CIS-1-3-DICHLOROPROPENE	ug/L	NA	NA
cis-PERMETHRIN	ug/L	NA	NA
COBALT	ug/L	<5	<5
COPPER	ug/L	<5	<5
DDVP	ug/L	NA	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Guadalupe Recharge System Station Name		Alamitos Creek @ Graystone Lane	Ross Creek @ Jarvis Avenue
Station ID		3010_110+803	3023_40+395
Parameter	**Result Unit**		
DELTA-BHC	ug/L	NA	NA
DI(2-ETHYLHEXYL)ADIPATE	ug/L	NA	NA
DI(2-ETHYLHEXYL)PHTHALATE	ug/L	NA	NA
DIBENZO (A-H) ANTRACENE	ug/L	NA	NA
DIBROMOCHLOROMETHANE (THM)	ug/L	NA	NA
DIBROMOMETHANE	ug/L	NA	NA
DICHLORODIFLUOROMETHANE (FREON 12)	ug/L	NA	NA
DICHLOROMETHANE	ug/L	NA	NA
DIELDRIN	ug/L	NA	NA
DIETHYL PHTHALATE	ug/L	NA	NA
DIISOPROPYL ETHER	ug/L	NA	NA
DIMETHYL PHTHALATE	ug/L	NA	NA
DI-N-BUTYLPHTHALATE	ug/L	NA	NA
DI-N-OCTYLPHTHALATE	ug/L	NA	NA
ENDOSULFAN I	ug/L	NA	NA
ENDOSULFAN II	ug/L	NA	NA
ENDOSULFAN SULFATE	ug/L	NA	NA
ENDRIN	ug/L	NA	NA
ENDRIN ALDEHYDE	ug/L	NA	NA
ENDRIN KETONE	ug/L	NA	NA
EPTC	ug/L	NA	NA
ETHYL PARATHION	ug/L	NA	NA
ETHYLBENZENE	ug/L	NA	NA
ETHYL-TERT-BUTYL ETHER	ug/L	NA	NA
FLUORANTHENE	ug/L	NA	NA
FLUORENE	ug/L	NA	NA
FLUORIDE (NATURAL SOURCE)	mg/L	0.081	0.072
GAMMA-BHC (LINDANE)- TOTAL	ug/L	NA	NA
GAMMA-CHLORDANE	ug/L	NA	NA
HEPTACHLOR	ug/L	NA	NA
HEPTACHLOR EPOXIDE (Isomer A)	ug/L	NA	NA
HEPTACHLOR EPOXIDE (Isomer B)	ug/L	NA	NA
HEXACHLOROBENZENE	ug/L	NA	NA
HEXACHLOROBUTADIENE	ug/L	NA	NA
HEXACHLOROCYCLOPENTADIENE	ug/L	NA	NA
HYDROXIDE ALKALINITY	mg/L	<5	<5
IRON	ug/L	<20	<20
ISOPHORONE	ug/L	NA	NA
ISOPROPYLBENZENE	ug/L	NA	NA
LEAD	ug/L	<2	<2
LITHIUM	ug/L	<5	<5
MAGNESIUM	mg/L	34	18.6

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Guadalupe Recharge System Station Name		**Alamitos Creek @ Graystone Lane**	**Ross Creek @ Jarvis Avenue**
Station ID		**3010_110+803**	**3023_40+395**
Parameter	**Result Unit**		
MALATHION	ug/L	NA	NA
MANGANESE	ug/L	<5	<5
MERCURY	ug/L	<1	<1
METHOXYCHLOR	ug/L	NA	NA
METHYL-TERT-BUTYL-ETHER (MTBE)	ug/L	NA	NA
METOLACHLOR	ug/L	NA	NA
METRIBUZIN	ug/L	NA	NA
MOLINATE	ug/L	NA	NA
MOLYBDENUM	ug/L	<5	<5
MONOCHLOROBENZENE	ug/L	NA	NA
M-P-XYLENE	ug/L	NA	NA
NAPHTHALENE	ug/L	NA	NA
N-BUTYLBENZENE	ug/L	NA	NA
NICKEL	ug/L	<5	<5
NITRATE (AS NO3)	mg/L	1.7367	3.2
O-XYLENE	ug/L	NA	NA
PENTACHLOROPHENOL	ug/L	NA	NA
PH- Laboratory	pH units	7.9	8.3
PHENANTHRENE	ug/L	NA	NA
PHOSPHATE- ORTHO	mg/L	0.05	0.26
P-ISOPROPYLTOLUENE	ug/L	NA	NA
POTASSIUM	mg/L	1.2	3
PROMETRYN	ug/L	NA	NA
PROPACHLOR	ug/L	NA	NA
PYRENE	ug/L	NA	NA
SEC-BUTYLBENZENE	ug/L	NA	NA
SELENIUM	ug/L	<5	<5
SILICA	mg/L	20.7	14.9
SILVER	ug/L	<5	<5
SIMAZINE	ug/L	NA	NA
SODIUM	mg/L	23.7	63.9
SPECIFIC CONDUCTANCE	uS/cm	527	645
STYRENE	ug/L	NA	NA
SULFATE	mg/L	21.6	50.6
TERBACIL	ug/L	NA	NA
TERT-AMYL-METHYL ETHER	ug/L	NA	NA
TERT-BUTYL ALCOHOL	ug/L	NA	NA
TERT-BUTYLBENZENE	ug/L	NA	NA
TETRACHLOROETHYLENE	ug/L	NA	NA
THALLIUM	ug/L	<1	<1
THIOBENCARB	ug/L	NA	NA
TOLUENE	ug/L	NA	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Guadalupe Recharge System Station Name		**Alamitos Creek @ Graystone Lane**	**Ross Creek @ Jarvis Avenue**
Station ID		**3010_110+803**	**3023_40+395**
Parameter	**Result Unit**		
TOTAL FILTERABLE RESIDUE @ 180 C (TDS)	mg/L	298	362
TRANS-1-2-DICHLOROETHYLENE	ug/L	NA	NA
TRANS-1-3-DICHLOROPROPENE	ug/L	NA	NA
TRANS-NONACHLOR	ug/L	NA	NA
TRANS-PERMETHRIN	ug/L	NA	NA
TRICHLOROETHYLENE	ug/L	NA	NA
TRICHLOROFLUOROMETHANE (FREON 11)	ug/L	NA	NA
TRIFLURALIN	ug/L	NA	NA
VANADIUM	ug/L	<3	3.9
VINYL CHLORIDE	ug/L	NA	NA
XYLENES (TOTAL)	ug/L	NA	NA
ZINC	ug/L	<10	<10

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Coyote Recharge System Station Name		**Coyote Creek @ Upper Silver Creek**	**Coyote Creek @ Blossom Hill Road**	**Coyote Creek #2**	**Coyote Pond North**	**Main Avenue Pond #2**
Station ID		**4021_1290 +57**	**4021_1510 +00**	**4021_2046 +08**	**9248_NA**	**9256_2**
Parameter	**Result Unit**					
1-1-1-2-TETRACHLORETHANE	ug/L	NA	<0.5	NA	NA	NA
1-1-1-TRICHLOROETHANE	ug/L	NA	<0.5	NA	NA	NA
1-1-2-2-TETRACHLOROETHANE	ug/L	NA	<0.5	NA	NA	NA
1-1-2-TRICHLORO-1-2-2-TRIFLUOROETHANE (FREON 113)	ug/L	NA	<0.5	NA	NA	NA
1-1-2-TRICHLOROETHANE	ug/L	NA	<0.5	NA	NA	NA
1-1-DICHLOROETHANE	ug/L	NA	<0.5	NA	NA	NA
1-1-DICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA	NA
1-1-DICHLOROPROPENE	ug/L	NA	<0.5	NA	NA	NA
1-2-3-TRICHLOROBENZENE	ug/L	NA	<0.5	NA	NA	NA
1-2-3-TRICHLOROPROPANE	ug/L	NA	<0.5	NA	NA	NA
1-2-4-TRICHLOROBENZENE	ug/L	NA	<0.5	NA	NA	NA
1-2-4-TRIMETHYLBENZENE	ug/L	NA	<0.5	NA	NA	NA
1-2-DICHLOROBENZENE	ug/L	NA	<0.5	NA	NA	NA
1-2-DICHLOROETHANE	ug/L	NA	<0.5	NA	NA	NA
1-2-DICHLOROPROPANE	ug/L	NA	<0.5	NA	NA	NA
1-3-5-TRIMETHYLBENZENE	ug/L	NA	<0.5	NA	NA	NA
1-3-DICHLOROBENZENE	ug/L	NA	<0.5	NA	NA	NA
1-3-DICHLOROPROPANE	ug/L	NA	<0.5	NA	NA	NA
1-3-DICHLOROPROPENE (TOTAL)	ug/L	NA	<0.5	NA	NA	NA
1-4-DICHLOROBENZENE	ug/L	NA	<0.5	NA	NA	NA
1-PHENYLPROPANE (N-PROPYLBENZENE)	ug/L	NA	<0.5	NA	NA	NA
2-2-DICHLOROPROPANE	ug/L	NA	<0.5	NA	NA	NA
2-CHLOROTOLUENE	ug/L	NA	<0.5	NA	NA	NA
4-4-DDD	ug/L	NA	<0.25	<0.25	<0.25	NA
4-4-DDE	ug/L	NA	<0.25	<0.25	<0.25	NA
4-4-DDT	ug/L	NA	<0.25	<0.25	<0.25	NA
4-CHLOROTOLUENE	ug/L	NA	<0.5	NA	NA	NA
ACENAPHTHENE	ug/L	NA	<0.25	<0.25	<0.25	NA
ACENAPHTHYLENE	ug/L	NA	<0.25	<0.25	<0.25	NA
ACETOCHLOR	ug/L	NA	<0.5	<0.5	<0.5	NA
ALACHLOR	ug/L	NA	<0.25	<0.25	<0.25	NA
ALDRIN	ug/L	NA	<0.25	<0.25	<0.25	NA
ALKALINITY (TOTAL) AS CACO3	mg/L	230	175	151	178	77
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	230	175	151	178	77

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Coyote Recharge System Station Name		**Coyote Creek @ Upper Silver Creek**	**Coyote Creek @ Blossom Hill Road**	**Coyote Creek #2**	**Coyote Pond North**	**Main Avenue Pond #2**
Station ID		**4021_1290 +57**	**4021_1510 +00**	**4021_2046 +08**	**9248_NA**	**9256_2**
Parameter	**Result Unit**					
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	<5	<5	<5	<5
ALPHA-BHC	ug/L	NA	<0.25	<0.25	<0.25	NA
ALPHA-CHLORDANE	ug/L	NA	<0.25	<0.25	<0.25	NA
ALUMINUM	ug/L	<20	<20	<20	<20	<20
ANTHRACENE	ug/L	NA	<0.25	<0.25	<0.25	NA
ANTIMONY	ug/L	<2	<2	<2	<2	<2
ARSENIC	ug/L	3	<2	2	<2	3
ATRAZINE	ug/L	NA	<0.25	<0.25	<0.25	NA
BARIUM	ug/L	120	97.093	98.483	96.334	38.701
BENZENE	ug/L	NA	<0.5	NA	NA	NA
BENZO (A) ANTHRACENE	ug/L	NA	<0.5	<0.5	<0.5	NA
BENZO (A) PYRENE	ug/L	NA	<0.1	<0.1	<0.1	NA
BENZO (B) FLUORANTHENE	ug/L	NA	<0.5	<0.5	<0.5	NA
BENZO (GHI) PERYLENE	ug/L	NA	<0.5	<0.5	<0.5	NA
BENZO (K) FLUORANTHENE	ug/L	NA	<0.5	<0.5	<0.5	NA
BENZYL BUTYL PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5	NA
BERYLLIUM	ug/L	<1	<1	<1	<1	<1
BETA-BHC	ug/L	NA	<0.25	<0.25	<0.25	NA
BORON	ug/L	156	132	118	129	165
BROMACIL	ug/L	NA	<1	<1	<1	NA
BROMIDE	mg/L	0.08	0.11	<0.05	0.12	0.26
BROMOBENZENE	ug/L	NA	<0.5	NA	NA	NA
BROMOCHLOROMETHANE	ug/L	NA	<0.5	NA	NA	NA
BROMODICHLOROMETHANE (THM)	ug/L	NA	<0.5	NA	NA	NA
BROMOFORM (THM)	ug/L	NA	<0.5	NA	NA	NA
BROMOMETHANE	ug/L	NA	<0.5	NA	NA	NA
BUTANEX BUTACHLOR	ug/L	NA	<0.25	<0.25	<0.25	NA
CADMIUM	ug/L	<1	<1	<1	<1	<1
CALCIUM	mg/L	43.2	47.9	37.3	49.8	21.4
CALCIUM AS CACO3	mg/L	108	120	93.2	124	53.6
CARBON TETRACHLORIDE	ug/L	NA	<0.5	NA	NA	NA
CHLORIDE	mg/L	69	46	17	43	91
CHLOROBENZILATE	ug/L	NA	<0.25	<0.25	<0.25	NA
CHLOROETHANE	ug/L	NA	<0.5	NA	NA	NA
CHLOROFORM (THM)	ug/L	NA	<0.5	NA	NA	NA
CHLOROMETHANE	ug/L	NA	<0.5	NA	NA	NA
CHLORONEB	ug/L	NA	<0.5	<0.5	<0.5	NA
CHLOROTHALONIL	ug/L	NA	<0.25	<0.25	<0.25	NA
CHLORPYRIFOS	ug/L	NA	<0.25	<0.25	<0.25	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Coyote Recharge System Station Name		**Coyote Creek @ Upper Silver Creek**	**Coyote Creek @ Blossom Hill Road**	**Coyote Creek #2**	**Coyote Pond North**	**Main Avenue Pond #2**
Station ID		**4021_1290 +57**	**4021_1510 +00**	**4021_2046 +08**	**9248_NA**	**9256_2**
Parameter	**Result Unit**					
CHLORTHAL	ug/L	NA	<0.25	<0.25	<0.25	NA
CHROMIUM- (TOTAL)	ug/L	<5	<5	<5	<5	<5
CHRYSENE	ug/L	NA	<0.5	<0.5	<0.5	NA
CIS-1-2-DICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA	NA
CIS-1-3-DICHLOROPROPENE	ug/L	NA	<0.5	NA	NA	NA
cis-PERMETHRIN	ug/L	NA	<0.5	<0.5	<0.5	NA
COBALT	ug/L	<5	<5	<5	<5	<5
COPPER	ug/L	<5	<5	<5	<5	<5
DDVP	ug/L	NA	<0.5	<0.5	<0.5	NA
DELTA-BHC	ug/L	NA	<0.25	<0.25	<0.25	NA
DI(2-ETHYLHEXYL)ADIPATE	ug/L	NA	<0.5	<0.5	<0.5	NA
DI(2-ETHYLHEXYL)PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5	NA
DIBENZO (A-H) ANTRACENE	ug/L	NA	<0.5	<0.5	<0.5	NA
DIBROMOCHLOROMETHANE (THM)	ug/L	NA	<0.5	NA	NA	NA
DIBROMOMETHANE	ug/L	NA	<0.5	NA	NA	NA
DICHLORODIFLUOROMETHANE (FREON 12)	ug/L	NA	<0.5	NA	NA	NA
DICHLOROMETHANE	ug/L	NA	<0.5	NA	NA	NA
DIELDRIN	ug/L	NA	<0.25	<0.25	<0.25	NA
DIETHYL PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5	NA
DIISOPROPYL ETHER	ug/L	NA	<0.5	NA	NA	NA
DIMETHYL PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5	NA
DI-N-BUTYLPHTHALATE	ug/L	NA	<1	<1	<1	NA
DI-N-OCTYLPHTHALATE	ug/L	NA	<1	<1	<1	NA
ENDOSULFAN I	ug/L	NA	<0.25	<0.25	<0.25	NA
ENDOSULFAN II	ug/L	NA	<0.25	<0.25	<0.25	NA
ENDOSULFAN SULFATE	ug/L	NA	<0.25	<0.25	<0.25	NA
ENDRIN	ug/L	NA	<0.25	<0.25	<0.25	NA
ENDRIN ALDEHYDE	ug/L	NA	<0.5	<0.5	<0.5	NA
ENDRIN KETONE	ug/L	NA	<0.5	<0.5	<0.5	NA
EPTC	ug/L	NA	<0.5	<0.5	<0.5	NA
ETHYL PARATHION	ug/L	NA	<0.5	<0.5	<0.5	NA
ETHYLBENZENE	ug/L	NA	<0.5	NA	NA	NA
ETHYL-TERT-BUTYL ETHER	ug/L	NA	<0.5	NA	NA	NA
FLUORANTHENE	ug/L	NA	<0.25	<0.25	<0.25	NA
FLUORENE	ug/L	NA	<0.25	<0.25	<0.25	NA
FLUORIDE (NATURAL SOURCE)	mg/L	0.15	0.16	0.15	0.17	<0.05
GAMMA-BHC (LINDANE)-TOTAL	ug/L	NA	<0.25	<0.25	<0.25	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Coyote Recharge System Station Name		Coyote Creek @ Upper Silver Creek	Coyote Creek @ Blossom Hill Road	Coyote Creek #2	Coyote Pond North	Main Avenue Pond #2
Station ID		4021_1290 +57	4021_1510 +00	4021_2046 +08	9248_NA	9256_2
Parameter	**Result Unit**					
GAMMA-CHLORDANE	ug/L	NA	<0.25	<0.25	<0.25	NA
HEPTACHLOR	ug/L	NA	<0.25	<0.25	<0.25	NA
HEPTACHLOR EPOXIDE (Isomer A)	ug/L	NA	<0.5	<0.5	<0.5	NA
HEPTACHLOR EPOXIDE (Isomer B)	ug/L	NA	<0.5	<0.5	<0.5	NA
HEXACHLOROBENZENE	ug/L	NA	<0.25	<0.25	<0.25	NA
HEXACHLOROBUTADIENE	ug/L	NA	<0.5	NA	NA	NA
HEXACHLOROCYCLOPENTADIENE	ug/L	NA	<0.5	<0.5	<0.5	NA
HYDROXIDE ALKALINITY	mg/L	<5	<5	<5	<5	<5
IRON	ug/L	34.38	<20	<20	<20	<20
ISOPHORONE	ug/L	NA	<0.5	<0.5	<0.5	NA
ISOPROPYLBENZENE	ug/L	NA	<0.5	NA	NA	NA
LEAD	ug/L	<2	<2	<2	<2	<2
LITHIUM	ug/L	9.5	8.8	7.3	9.2	<5
MAGNESIUM	mg/L	43	26.7	17.9	27.4	14.2
MALATHION	ug/L	NA	<0.25	<0.25	<0.25	NA
MANGANESE	ug/L	29.4	<5	<5	<5	<5
MERCURY	ug/L	<1	<1	<1	<1	<1
METHOXYCHLOR	ug/L	NA	<0.5	<0.5	<0.5	NA
METHYL-TERT-BUTYL-ETHER (MTBE)	ug/L	NA	<3	NA	NA	NA
METOLACHLOR	ug/L	NA	<0.25	<0.25	<0.25	NA
METRIBUZIN	ug/L	NA	<0.25	<0.25	<0.25	NA
MOLINATE	ug/L	NA	<0.5	<0.5	<0.5	NA
MOLYBDENUM	ug/L	<5	<5	<5	<5	<5
MONOCHLOROBENZENE	ug/L	NA	<0.5	NA	NA	NA
M-P-XYLENE	ug/L	NA	<0.5	NA	NA	NA
NAPHTHALENE	ug/L	NA	<0.75	<0.25	<0.25	NA
N-BUTYLBENZENE	ug/L	NA	<0.5	NA	NA	NA
NICKEL	ug/L	<5	<5	<5	<5	<5
NITRATE (AS NO3)	mg/L	2.3	8.5	0.106	10.5	2.9
O-XYLENE	ug/L	NA	<0.5	NA	NA	NA
PENTACHLOROPHENOL	ug/L	NA	<1	<1	<1	NA
PH- Laboratory	pH units	7.7	8	8.1	8	7.7
PHENANTHRENE	ug/L	NA	<0.25	<0.25	<0.25	NA
PHOSPHATE- ORTHO	mg/L	0.1	<0.05	<0.05	<0.05	0.16
P-ISOPROPYLTOLUENE	ug/L	NA	<0.5	NA	NA	NA
POTASSIUM	mg/L	2.1	1.9	2	1.7	3.3
PROMETRYN	ug/L	NA	<0.25	<0.25	<0.25	NA

TABLE 4. Analytical Results for Sampling Event 1 - December 13 & 14, 2010 (continued)

Coyote Recharge System Station Name		Coyote Creek @ Upper Silver Creek	Coyote Creek @ Blossom Hill Road	Coyote Creek #2	Coyote Pond North	Main Avenue Pond #2
Station ID		4021_1290 +57	4021_1510 +00	4021_2046 +08	9248_NA	9256_2
Parameter	Result Unit					
PROPACHLOR	ug/L	NA	<0.5	<0.5	<0.5	NA
PYRENE	ug/L	NA	<0.25	<0.25	<0.25	NA
SEC-BUTYLBENZENE	ug/L	NA	<0.5	NA	NA	NA
SELENIUM	ug/L	<5	<5	<5	<5	<5
SILICA	mg/L	21.8	15.4	10.6	17.1	15.2
SILVER	ug/L	<5	<5	<5	<5	<5
SIMAZINE	ug/L	NA	<0.25	<0.25	<0.25	NA
SODIUM	mg/L	43.8	30.4	22.2	30	61.9
SPECIFIC CONDUCTANCE	uS/cm	740	583	407	588	541
STYRENE	ug/L	NA	<0.5	NA	NA	NA
SULFATE	mg/L	47	49	35.4	48.6	39.1
TERBACIL	ug/L	NA	<0.5	<0.5	<0.5	NA
TERT-AMYL-METHYL ETHER	ug/L	NA	<0.5	NA	NA	NA
TERT-BUTYL ALCOHOL	ug/L	NA	<0.5	NA	NA	NA
TERT-BUTYLBENZENE	ug/L	NA	<0.5	NA	NA	NA
TETRACHLOROETHYLENE	ug/L	NA	<0.5	NA	NA	NA
THALLIUM	ug/L	<1	<1	<1	<1	<1
THIOBENCARB	ug/L	NA	<0.25	<0.25	<0.25	NA
TOLUENE	ug/L	NA	<0.5	NA	NA	NA
TOTAL FILTERABLE RESIDUE @ 180 C (TDS)	mg/L	404	352	244	330	296
TRANS-1-2-DICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA	NA
TRANS-1-3-DICHLOROPROPENE	ug/L	NA	<0.5	NA	NA	NA
TRANS-NONACHLOR	ug/L	NA	<0.25	<0.25	<0.25	NA
TRANS-PERMETHRIN	ug/L	NA	<0.5	<0.5	<0.5	NA
TRICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA	NA
TRICHLOROFLUOROMETHANE (FREON 11)	ug/L	NA	<0.5	NA	NA	NA
TRIFLURALIN	ug/L	NA	<0.5	<0.5	<0.5	NA
VANADIUM	ug/L	3.1	<3	<3	<3	3.4
VINYL CHLORIDE	ug/L	NA	<0.5	NA	NA	NA
XYLENES (TOTAL)	ug/L	NA	<0.5	NA	NA	NA
ZINC	ug/L	<10	<10	<10	<10	<10

Notes: ug/l = micrograms per liter; mg/l = milligrams per liter; uS/cm = micro Siemens per centimeter; NA = not analyzed

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011

	Stevens Creek Recharge System Station Name	Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
	Station ID	1029_457+65	1029_572+51	1029_514+81
Parameter	**Result Unit**			
1-1-1-2-TETRACHLORETHANE	ug/L	NA	NA	NA
1-1-1-TRICHLOROETHANE	ug/L	NA	NA	NA
1-1-2-2-TETRACHLOROETHANE	ug/L	NA	NA	NA
1-1-2-TRICHLORO-1-2-2-TRIFLUOROETHANE	ug/L	NA	NA	NA
1-1-2-TRICHLOROETHANE	ug/L	NA	NA	NA
1-1-DICHLOROETHANE	ug/L	NA	NA	NA
1-1-DICHLOROETHYLENE	ug/L	NA	NA	NA
1-1-DICHLOROPROPENE	ug/L	NA	NA	NA
1-2-3-TRICHLOROBENZENE	ug/L	NA	NA	NA
1-2-3-TRICHLOROPROPANE	ug/L	NA	NA	NA
1-2-4-TRICHLOROBENZENE	ug/L	NA	NA	NA
1-2-4-TRIMETHYLBENZENE	ug/L	NA	NA	NA
1-2-DICHLOROBENZENE	ug/L	NA	NA	NA
1-2-DICHLOROETHANE	ug/L	NA	NA	NA
1-2-DICHLOROPROPANE	ug/L	NA	NA	NA
1-3-5-TRIMETHYLBENZENE	ug/L	NA	NA	NA
1-3-DICHLOROBENZENE	ug/L	NA	NA	NA
1-3-DICHLOROPROPANE	ug/L	NA	NA	NA
1-3-DICHLOROPROPENE (TOTAL)	ug/L	NA	NA	NA
1-4-DICHLOROBENZENE	ug/L	NA	NA	NA
1-PHENYLPROPANE (N-PROPYLBENZENE)	ug/L	NA	NA	NA
2-2-DICHLOROPROPANE	ug/L	NA	NA	NA
2-CHLOROTOLUENE	ug/L	NA	NA	NA
4-4-DDD	ug/L	NA	NA	NA
4-4-DDE	ug/L	NA	NA	NA
4-4-DDT	ug/L	NA	NA	NA
4-CHLOROTOLUENE	ug/L	NA	NA	NA
ACENAPHTHENE	ug/L	NA	NA	NA
ACENAPHTHYLENE	ug/L	NA	NA	NA
ACETOCHLOR	ug/L	NA	NA	NA
ALACHLOR	ug/L	NA	NA	NA
ALDRIN	ug/L	NA	NA	NA
ALKALINITY (TOTAL) AS CACO3	mg/L	179	173	179
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	179	173	179
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	<5	<5
ALPHA-BHC	ug/L	NA	NA	NA
ALPHA-CHLORDANE	ug/L	NA	NA	NA
ALUMINUM	ug/L	<20	<20	20.5
ANTIMONY	ug/L	<2	<2	<2
ARSENIC	ug/L	<2	<2	<2
ATRAZINE	ug/L	NA	NA	NA

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Stevens Creek Recharge System Station Name		Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
Station ID		1029_457+65	1029_572+51	1029_514+81
Parameter	Result Unit			
BARIUM	ug/L	94.5	95.9	92.7
BENZENE	ug/L	NA	NA	NA
BENZO (A) ANTHRACENE	ug/L	NA	NA	NA
BENZO (B) FLUORANTHENE	ug/L	NA	NA	NA
BENZO (GHI) PERYLENE	ug/L	NA	NA	NA
BENZO (K) FLUORANTHENE	ug/L	NA	NA	NA
BENZYL BUTYL PHTHALATE	ug/L	NA	NA	NA
BERYLLIUM	ug/L	<1	<1	<1
BETA-BHC	ug/L	NA	NA	NA
BORON	ug/L	126	125	122
BROMACIL	ug/L	NA	NA	NA
BROMIDE	mg/L	<0.05	<0.05	<0.05
BROMOBENZENE	ug/L	NA	NA	NA
BROMOCHLOROMETHANE	ug/L	NA	NA	NA
BROMODICHLOROMETHANE (THM)	ug/L	NA	NA	NA
BROMOFORM (THM)	ug/L	NA	NA	NA
BROMOMETHANE	ug/L	NA	NA	NA
BUTACHLOR	ug/L	NA	NA	NA
CADMIUM	ug/L	<1	<1	<1
CALCIUM	mg/L	52.1	50.1	50.9
CALCIUM AS CACO3	mg/L	130	125	127
CARBON TETRACHLORIDE	mg/L	NA	NA	NA
CHLORDANE-GAMMA	mg/L	NA	NA	NA
CHLORIDE	ug/L	19	15	17
CHLOROBENZILATE	ug/L	NA	NA	NA
CHLOROETHANE	ug/L	NA	NA	NA
CHLOROFORM (THM)	ug/L	NA	NA	NA
CHLOROMETHANE	ug/L	NA	NA	NA
CHLORONEB	ug/L	NA	NA	NA
CHLOROTHALONIL	ug/L	NA	NA	NA
CHLORPYRIFOS	ug/L	NA	NA	NA
CHROMIUM- (TOTAL)	ug/L	<1	<1	<1
CHRYSENE	ug/L	NA	NA	NA
CIS-1-2-DICHLOROETHYLENE	ug/L	NA	NA	NA
CIS-1-3-DICHLOROPROPENE	ug/L	NA	NA	NA
cis-PERMETHRIN	ug/L	NA	NA	NA
COPPER	ug/L	<2	<2	<2
DCPA METHYL ESTER (DACTHAL)	ug/L	NA	NA	NA
DDVP	ug/L	NA	NA	NA
DELTA-BHC	ug/L	NA	NA	NA
DI(2-ETHYLHEXYL)ADIPATE	ug/L	NA	NA	NA
DI(2-ETHYLHEXYL)PHTHALATE	ug/L	NA	NA	NA
DIBENZO (A-H) ANTRACENE	ug/L	NA	NA	NA

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Stevens Creek Recharge System Station Name		Stevens Creek #1	Stevens Creek #2	Stevens Creek #3
	Station ID	1029_457+65	1029_572+51	1029_514+81
Parameter	**Result Unit**			
DIBROMOCHLOROMETHANE (THM)	ug/L	NA	NA	NA
DIBROMOMETHANE	ug/L	NA	NA	NA
DICHLORODIFLUOROMETHANE (FREON 12)	ug/L	NA	NA	NA
DICHLOROMETHANE	ug/L	NA	NA	NA
DIELDRIN	ug/L	NA	NA	NA
DIETHYL PHTHALATE	ug/L	NA	NA	NA
DIISOPROPYL ETHER	ug/L	NA	NA	NA
DIMETHYL PHTHALATE	ug/L	NA	NA	NA
DI-N-BUTYLPHTHALATE	ug/L	NA	NA	NA
DI-N-OCTYLPHTHALATE	ug/L	NA	NA	NA
ENDOSULFAN I	ug/L	NA	NA	NA
ENDOSULFAN II	ug/L	NA	NA	NA
ENDOSULFAN SULFATE	ug/L	NA	NA	NA
ENDRIN	ug/L	NA	NA	NA
ENDRIN ALDEHYDE	ug/L	NA	NA	NA
ENDRIN KETONE	ug/L	NA	NA	NA
EPTC (EPTAM)	ug/L	NA	NA	NA
ETHYL PARATHION	ug/L	NA	NA	NA
ETHYLBENZENE	ug/L	NA	NA	NA
ETHYL-TERT-BUTYL ETHER	ug/L	NA	NA	NA
FLUORANTHENE	ug/L	NA	NA	NA
FLUORENE	ug/L	NA	NA	NA
FLUORIDE (NATURAL SOURCE)	mg/L	0.11	0.15	0.15
GAMMA-BHC (LINDANE)- TOTAL	ug/L	NA	NA	NA
HARDNESS (TOTAL) AS CAC03	ug/L	206	197	208
HEPTACHLOR	ug/L	NA	NA	NA
HEPTACHLOR EPOXIDE (Isomer A)	ug/L	NA	NA	NA
HEPTACHLOR EPOXIDE (Isomer B)	ug/L	NA	NA	NA
HEXACHLOROBENZENE	ug/L	NA	NA	NA
HEXACHLOROBUTADIENE	ug/L	NA	NA	NA
HEXACHLOROCYCLOPENTADIENE	ug/L	NA	NA	NA
HYDROXIDE ALKALINITY	mg/L	<5	<5	<5
IRON	ug/L	<20	<20	<20
ISOPHORONE	ug/L	NA	NA	NA
ISOPROPYLBENZENE	ug/L	NA	NA	NA
LEAD	ug/L	<2	<2	<2
MAGNESIUM	mg/L	19.3	17.8	18.4
MALATHION	ug/L	NA	NA	NA
MANGANESE	ug/L	<10	<10	<10
METHOXYCHLOR	ug/L	NA	NA	NA
METHYL-TERT-BUTYL-ETHER (MTBE)	ug/L	NA	NA	NA
METOLACHLOR	ug/L	NA	NA	NA

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Stevens Creek Recharge System Station Name		**Stevens Creek #1**	**Stevens Creek #2**	**Stevens Creek #3**
Station ID		**1029_457+65**	**1029_572+51**	**1029_514+81**
Parameter	**Result Unit**			
MOLINATE	ug/L	NA	NA	NA
MONOCHLOROBENZENE	ug/L	NA	NA	NA
M-P-XYLENE	ug/L	NA	NA	NA
NAPHTHALENE	ug/L	NA	NA	NA
N-BUTYLBENZENE	ug/L	NA	NA	NA
NICKEL	ug/L	<2	<2	<2
NITRATE (AS NO3)	mg/L	1.97	0.6	0.78
O-XYLENE	ug/L	NA	NA	NA
PENTACHLOROPHENOL	ug/L	NA	NA	NA
PHENANTHRENE	ug/L	NA	NA	NA
PHOSPHATE- ORTHO	mg/L	<0.05	0.08	0.06
P-ISOPROPYLTOLUENE	ug/L	NA	NA	NA
POTASSIUM	mg/L	1.4	1.3	1.3
PROMETRYN	ug/L	NA	NA	NA
PROPACHLOR	ug/L	NA	NA	NA
PYRENE	ug/L	NA	NA	NA
SEC-BUTYLBENZENE	ug/L	NA	NA	NA
SELENIUM	ug/L	<5	<5	<5
SILICA	mg/L	15.1	15.2	14.7
SILVER	ug/L	<2	<2	<2
SODIUM	mg/L	21.6	18	18.5
SPECIFIC CONDUCTANCE	uS/cm	498	470	489
STYRENE	ug/L	NA	NA	NA
SULFATE	mg/L	14.7	32	33.9
TERBACIL	ug/L	NA	NA	NA
TERT-AMYL-METHYL ETHER	ug/L	NA	NA	NA
TERT-BUTYL ALCOHOL	ug/L	NA	NA	NA
TERT-BUTYLBENZENE	ug/L	NA	NA	NA
TETRACHLOROETHYLENE	ug/L	NA	NA	NA
THALLIUM	ug/L	<1	<1	<1
THIOBENCARB	ug/L	NA	NA	NA
TOLUENE	ug/L	NA	NA	NA
TOTAL FILTERABLE RESIDUE @ 180 C (TDS)	mg/L	272	276	284
TRANS-1-2-DICHLOROETHYLENE	ug/L	NA	NA	NA
TRANS-1-3-DICHLOROPROPENE	ug/L	NA	NA	NA
TRANS-NONACHLOR	ug/L	NA	NA	NA
TRANS-PERMETHRIN	ug/L	NA	NA	NA
TRICHLOROETHYLENE	ug/L	NA	NA	NA
TRICHLOROFLUOROMETHANE (FREON 11)	ug/L	NA	NA	NA
TRIFLURALIN	ug/L	NA	NA	NA
TURBIDITY- LABORATORY	NTU	0.14	0.12	0.15

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Stevens Creek Recharge System Station Name		**Stevens Creek #1**	**Stevens Creek #2**	**Stevens Creek #3**
Station ID		**1029_457+65**	**1029_572+51**	**1029_514+81**
Parameter	**Result Unit**			
VANADIUM	ug/L	<3	<3	<3
VINYL CHLORIDE	ug/L	NA	NA	NA
XYLENES (TOTAL)	ug/L	NA	NA	NA
ZINC	ug/L	<10	<10	<10

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Guadalupe Recharge System Station Name		Alamitos Creek @ Graystone Lane	Ross Creek @ Jarvis Avenue
Station ID		3010_110+803	3023_40+395
Parameter	**Result Unit**		
1-1-1-2-TETRACHLORETHANE	ug/L	NA	NA
1-1-1-TRICHLOROETHANE	ug/L	NA	NA
1-1-2-2-TETRACHLOROETHANE	ug/L	NA	NA
1-1-2-TRICHLORO-1-2-2-TRIFLUOROETHANE	ug/L	NA	NA
1-1-2-TRICHLOROETHANE	ug/L	NA	NA
1-1-DICHLOROETHANE	ug/L	NA	NA
1-1-DICHLOROETHYLENE	ug/L	NA	NA
1-1-DICHLOROPROPENE	ug/L	NA	NA
1-2-3-TRICHLOROBENZENE	ug/L	NA	NA
1-2-3-TRICHLOROPROPANE	ug/L	NA	NA
1-2-4-TRICHLOROBENZENE	ug/L	NA	NA
1-2-4-TRIMETHYLBENZENE	ug/L	NA	NA
1-2-DICHLOROBENZENE	ug/L	NA	NA
1-2-DICHLOROETHANE	ug/L	NA	NA
1-2-DICHLOROPROPANE	ug/L	NA	NA
1-3-5-TRIMETHYLBENZENE	ug/L	NA	NA
1-3-DICHLOROBENZENE	ug/L	NA	NA
1-3-DICHLOROPROPANE	ug/L	NA	NA
1-3-DICHLOROPROPENE (TOTAL)	ug/L	NA	NA
1-4-DICHLOROBENZENE	ug/L	NA	NA
1-PHENYLPROPANE (N-PROPYLBENZENE)	ug/L	NA	NA
2-2-DICHLOROPROPANE	ug/L	NA	NA
2-CHLOROTOLUENE	ug/L	NA	NA
4-4-DDD	ug/L	NA	NA
4-4-DDE	ug/L	NA	NA
4-4-DDT	ug/L	NA	NA
4-CHLOROTOLUENE	ug/L	NA	NA
ACENAPHTHENE	ug/L	NA	NA
ACENAPHTHYLENE	ug/L	NA	NA
ACETOCHLOR	ug/L	NA	NA
ALACHLOR	ug/L	NA	NA
ALDRIN	ug/L	NA	NA
ALKALINITY (TOTAL) AS CACO3	mg/L	173	243
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	173	202
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	41
ALPHA-BHC	ug/L	NA	NA
ALPHA-CHLORDANE	ug/L	NA	NA
ALUMINUM	ug/L	<20	<20
ANTIMONY	ug/L	<2	<2
ARSENIC	ug/L	<2	<2
ATRAZINE	ug/L	NA	NA
BARIUM	ug/L	60.4	110

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Guadalupe Recharge System Station Name		Alamitos Creek @ Graystone Lane	Ross Creek @ Jarvis Avenue
Station ID		3010_110+803	3023_40+395
Parameter	**Result Unit**		
BENZENE	ug/L	NA	NA
BENZO (A) ANTHRACENE	ug/L	NA	NA
BENZO (B) FLUORANTHENE	ug/L	NA	NA
BENZO (GHI) PERYLENE	ug/L	NA	NA
BENZO (K) FLUORANTHENE	ug/L	NA	NA
BENZYL BUTYL PHTHALATE	ug/L	NA	NA
BERYLLIUM	ug/L	<1	<1
BETA-BHC	ug/L	NA	NA
BORON	ug/L	98.4	92.4
BROMACIL	ug/L	NA	NA
BROMIDE	mg/L	<0.05	0.21
BROMOBENZENE	ug/L	NA	NA
BROMOCHLOROMETHANE	ug/L	NA	NA
BROMODICHLOROMETHANE (THM)	ug/L	NA	NA
BROMOFORM (THM)	ug/L	NA	NA
BROMOMETHANE	ug/L	NA	NA
BUTACHLOR	ug/L	NA	NA
CADMIUM	ug/L	<1	<1
CALCIUM	mg/L	32.8	73.3
CALCIUM AS CACO3	mg/L	82.1	183
CARBON TETRACHLORIDE	mg/L	NA	NA
CHLORDANE-GAMMA	mg/L	NA	NA
CHLORIDE	ug/L	15	136
CHLOROBENZILATE	ug/L	NA	NA
CHLOROETHANE	ug/L	NA	NA
CHLOROFORM (THM)	ug/L	NA	NA
CHLOROMETHANE	ug/L	NA	NA
CHLORONEB	ug/L	NA	NA
CHLOROTHALONIL	ug/L	NA	NA
CHLORPYRIFOS	ug/L	NA	NA
CHROMIUM- (TOTAL)	ug/L	1.84	<1
CHRYSENE	ug/L	NA	NA
CIS-1-2-DICHLOROETHYLENE	ug/L	NA	NA
CIS-1-3-DICHLOROPROPENE	ug/L	NA	NA
cis-PERMETHRIN	ug/L	NA	NA
COPPER	ug/L	<2	2.26
DCPA METHYL ESTER (DACTHAL)	ug/L	NA	NA
DDVP	ug/L	NA	NA
DELTA-BHC	ug/L	NA	NA
DI(2-ETHYLHEXYL)ADIPATE	ug/L	NA	NA
DI(2-ETHYLHEXYL)PHTHALATE	ug/L	NA	NA
DIBENZO (A-H) ANTRACENE	ug/L	NA	NA
DIBROMOCHLOROMETHANE (THM)	ug/L	NA	NA
DIBROMOMETHANE	ug/L	NA	NA

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

	Guadalupe Recharge System Station Name	**Alamitos Creek @ Graystone Lane**	**Ross Creek @ Jarvis Avenue**
	Station ID	**3010_110+803**	**3023_40+395**
Parameter	**Result Unit**		
DICHLORODIFLUOROMETHANE (FREON 12)	ug/L	NA	NA
DICHLOROMETHANE	ug/L	NA	NA
DIELDRIN	ug/L	NA	NA
DIETHYL PHTHALATE	ug/L	NA	NA
DIISOPROPYL ETHER	ug/L	NA	NA
DIMETHYL PHTHALATE	ug/L	NA	NA
DI-N-BUTYLPHTHALATE	ug/L	NA	NA
DI-N-OCTYLPHTHALATE	ug/L	NA	NA
ENDOSULFAN I	ug/L	NA	NA
ENDOSULFAN II	ug/L	NA	NA
ENDOSULFAN SULFATE	ug/L	NA	NA
ENDRIN	ug/L	NA	NA
ENDRIN ALDEHYDE	ug/L	NA	NA
ENDRIN KETONE	ug/L	NA	NA
EPTC (EPTAM)	ug/L	NA	NA
ETHYL PARATHION	ug/L	NA	NA
ETHYLBENZENE	ug/L	NA	NA
ETHYL-TERT-BUTYL ETHER	ug/L	NA	NA
FLUORANTHENE	ug/L	NA	NA
FLUORENE	ug/L	NA	NA
FLUORIDE (NATURAL SOURCE)	mg/L	0.15	0.18
GAMMA-BHC (LINDANE)- TOTAL	ug/L	NA	NA
HARDNESS (TOTAL) AS CAC03	ug/L	189	369
HEPTACHLOR	ug/L	NA	NA
HEPTACHLOR EPOXIDE (Isomer A)	ug/L	NA	NA
HEPTACHLOR EPOXIDE (Isomer B)	ug/L	NA	NA
HEXACHLOROBENZENE	ug/L	NA	NA
HEXACHLOROBUTADIENE	ug/L	NA	NA
HEXACHLOROCYCLOPENTADIENE	ug/L	NA	NA
HYDROXIDE ALKALINITY	mg/L	<5	<5
IRON	ug/L	<20	<20
ISOPHORONE	ug/L	NA	NA
ISOPROPYLBENZENE	ug/L	NA	NA
LEAD	ug/L	<2	<2
MAGNESIUM	mg/L	26	45.6
MALATHION	ug/L	NA	NA
MANGANESE	ug/L	<10	<10
METHOXYCHLOR	ug/L	NA	NA
METHYL-TERT-BUTYL-ETHER (MTBE)	ug/L	NA	NA
METOLACHLOR	ug/L	NA	NA
MOLINATE	ug/L	NA	NA
MONOCHLOROBENZENE	ug/L	NA	NA
M-P-XYLENE	ug/L	NA	NA

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Guadalupe Recharge System Station Name		**Alamitos Creek @ Graystone Lane**	**Ross Creek @ Jarvis Avenue**
	Station ID	**3010_110+803**	**3023_40+395**
Parameter	**Result Unit**		
NAPHTHALENE	ug/L	NA	NA
N-BUTYLBENZENE	ug/L	NA	NA
NICKEL	ug/L	2.72	3.49
NITRATE (AS NO3)	mg/L	0.97	7.2
O-XYLENE	ug/L	NA	NA
PENTACHLOROPHENOL	ug/L	NA	NA
PHENANTHRENE	ug/L	NA	NA
PHOSPHATE- ORTHO	mg/L	0.08	0.16
P-ISOPROPYLTOLUENE	ug/L	NA	NA
POTASSIUM	mg/L	0.9	2
PROMETRYN	ug/L	NA	NA
PROPACHLOR	ug/L	NA	NA
PYRENE	ug/L	NA	NA
SEC-BUTYLBENZENE	ug/L	NA	NA
SELENIUM	ug/L	<5	<5
SILICA	mg/L	19.4	17
SILVER	ug/L	<2	<2
SODIUM	mg/L	14.4	79.3
SPECIFIC CONDUCTANCE	uS/cm	428	1120
STYRENE	ug/L	NA	NA
SULFATE	mg/L	35.4	97
TERBACIL	ug/L	NA	NA
TERT-AMYL-METHYL ETHER	ug/L	NA	NA
TERT-BUTYL ALCOHOL	ug/L	NA	NA
TERT-BUTYLBENZENE	ug/L	NA	NA
TETRACHLOROETHYLENE	ug/L	NA	NA
THALLIUM	ug/L	<1	<1
THIOBENCARB	ug/L	NA	NA
TOLUENE	ug/L	NA	NA
TOTAL FILTERABLE RESIDUE @ 180 C (TDS)	mg/L	252	632
TRANS-1-2-DICHLOROETHYLENE	ug/L	NA	NA
TRANS-1-3-DICHLOROPROPENE	ug/L	NA	NA
TRANS-NONACHLOR	ug/L	NA	NA
TRANS-PERMETHRIN	ug/L	NA	NA
TRICHLOROETHYLENE	ug/L	NA	NA
TRICHLOROFLUOROMETHANE (FREON 11)	ug/L	NA	NA
TRIFLURALIN	ug/L	NA	NA
TURBIDITY- LABORATORY	NTU	0.2	0.12
VANADIUM	ug/L	<3	4.9
VINYL CHLORIDE	ug/L	NA	NA
XYLENES (TOTAL)	ug/L	NA	NA
ZINC	ug/L	<10	<10

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

	Coyote Recharge System Station Name	**Coyote Creek @ Upper Silver Creek**	**Coyote Creek @ Blossom Hill Road**	**Coyote Creek #2**	**Coyote Pond North**
	Station ID	**4021_1290+57**	**4021_1510+00**	**4021_2046+08**	**9248_NA**
Parameter	**Result Unit**				
1-1-1-2-TETRACHLORETHANE	ug/L	NA	<0.5	NA	NA
1-1-1-TRICHLOROETHANE	ug/L	NA	<0.5	NA	NA
1-1-2-2-TETRACHLOROETHANE	ug/L	NA	<0.5	NA	NA
1-1-2-TRICHLORO-1-2-2-TRIFLUOROETHANE	ug/L	NA	<2	NA	NA
1-1-2-TRICHLOROETHANE	ug/L	NA	<0.5	NA	NA
1-1-DICHLOROETHANE	ug/L	NA	<0.5	NA	NA
1-1-DICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA
1-1-DICHLOROPROPENE	ug/L	NA	<0.5	NA	NA
1-2-3-TRICHLOROBENZENE	ug/L	NA	<0.5	NA	NA
1-2-3-TRICHLOROPROPANE	ug/L	NA	<0.5	NA	NA
1-2-4-TRICHLOROBENZENE	ug/L	NA	<0.5	NA	NA
1-2-4-TRIMETHYLBENZENE	ug/L	NA	<0.5	NA	NA
1-2-DICHLOROBENZENE	ug/L	NA	<0.5	NA	NA
1-2-DICHLOROETHANE	ug/L	NA	<0.5	NA	NA
1-2-DICHLOROPROPANE	ug/L	NA	<0.5	NA	NA
1-3-5-TRIMETHYLBENZENE	ug/L	NA	<0.5	NA	NA
1-3-DICHLOROBENZENE	ug/L	NA	<0.5	NA	NA
1-3-DICHLOROPROPANE	ug/L	NA	<0.5	NA	NA
1-3-DICHLOROPROPENE (TOTAL)	ug/L	NA	<0.5	NA	NA
1-4-DICHLOROBENZENE	ug/L	NA	<0.5	NA	NA
1-PHENYLPROPANE (N-PROPYLBENZENE)	ug/L	NA	<0.5	NA	NA
2-2-DICHLOROPROPANE	ug/L	NA	<0.5	NA	NA
2-CHLOROTOLUENE	ug/L	NA	<0.5	NA	NA
4-4-DDD	ug/L	NA	<0.25	<0.25	<0.25
4-4-DDE	ug/L	NA	<0.25	<0.25	<0.25
4-4-DDT	ug/L	NA	<0.25	<0.25	<0.25
4-CHLOROTOLUENE	ug/L	NA	<0.5	NA	NA
ACENAPHTHENE	ug/L	NA	<0.25	<0.2	<0.2
ACENAPHTHYLENE	ug/L	NA	<0.25	<0.2	<0.2
ACETOCHLOR	ug/L	NA	<0.5	<0.5	<0.5
ALACHLOR	ug/L	NA	<0.25	<0.2	<0.2
ALDRIN	ug/L	NA	<0.25	<0.25	<0.25
ALKALINITY (TOTAL) AS CACO3	mg/L	196	167	141	176
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	196	167	141	176
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	<5	<5	<5
ALPHA-BHC	ug/L	NA	<0.25	<0.25	<0.25
ALPHA-CHLORDANE	ug/L	NA	<0.25	<0.25	<0.25
ALUMINUM	ug/L	<20	<20	<20	<20
ANTIMONY	ug/L	<2	<2	<2	<2
ARSENIC	ug/L	2	<2	<2	<2

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Coyote Recharge System Station Name		**Coyote Creek @ Upper Silver Creek**	**Coyote Creek @ Blossom Hill Road**	**Coyote Creek #2**	**Coyote Pond North**
	Station ID	**4021_1290+57**	**4021_1510+00**	**4021_2046+08**	**9248_NA**
Parameter	**Result Unit**				
ATRAZINE	ug/L	NA	<0.25	<0.2	<0.2
BARIUM	ug/L	100	85.79	84.7	88.7
BENZENE	ug/L	NA	<0.5	NA	NA
BENZO (A) ANTHRACENE	ug/L	NA	<0.5	<0.5	<0.5
BENZO (B) FLUORANTHENE	ug/L	NA	<0.5	<0.5	<0.5
BENZO (GHI) PERYLENE	ug/L	NA	<0.5	<0.5	<0.5
BENZO (K) FLUORANTHENE	ug/L	NA	<0.5	<0.5	<0.5
BENZYL BUTYL PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5
BERYLLIUM	ug/L	<1	<1	<1	<1
BETA-BHC	ug/L	NA	<0.25	<0.25	<0.25
BORON	ug/L	123	121	109	121
BROMACIL	ug/L	NA	<1	<1	<1
BROMIDE	mg/L	0.08	0.06	<0.05	0.08
BROMOBENZENE	ug/L	NA	<0.5	NA	NA
BROMOCHLOROMETHANE	ug/L	NA	<0.5	NA	NA
BROMODICHLOROMETHANE (THM)	ug/L	NA	<0.5	NA	NA
BROMOFORM (THM)	ug/L	NA	<0.5	NA	NA
BROMOMETHANE	ug/L	NA	<0.5	NA	NA
BUTACHLOR	ug/L	NA	<0.25	<0.2	<0.2
CADMIUM	ug/L	<1	<1	<1	<1
CALCIUM	mg/L	40.3	44.7	36.2	47
CALCIUM AS CACO3	mg/L	101	104	90.6	118
CARBON TETRACHLORIDE	mg/L	NA	<0.5	NA	NA
CHLORDANE-GAMMA	mg/L	NA	<0.25	<0.25	<0.25
CHLORIDE	ug/L	37	25	14	30
CHLOROBENZILATE	ug/L	NA	<0.25	<0.25	<0.25
CHLOROETHANE	ug/L	NA	<0.5	NA	NA
CHLOROFORM (THM)	ug/L	NA	<0.5	NA	NA
CHLOROMETHANE	ug/L	NA	<0.5	NA	NA
CHLORONEB	ug/L	NA	<0.5	<0.5	<0.5
CHLOROTHALONIL	ug/L	NA	<0.25	<0.2	<0.2
CHLORPYRIFOS	ug/L	NA	<0.25	<0.2	<0.2
CHROMIUM- (TOTAL)	ug/L	1.28	<1	<1	<1
CHRYSENE	ug/L	NA	<0.5	<0.5	<0.5
CIS-1-2-DICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA
CIS-1-3-DICHLOROPROPENE	ug/L	NA	<0.5	NA	NA
cis-PERMETHRIN	ug/L	NA	<0.5	<0.5	<0.5
COPPER	ug/L	<2	<2	<2	<2
DCPA METHYL ESTER (DACTHAL)	ug/L	NA	<0.25	<0.25	<0.25
DDVP	ug/L	NA	<0.5	<0.5	<0.5
DELTA-BHC	ug/L	NA	<0.25	<0.25	<0.25
DI(2-ETHYLHEXYL)ADIPATE	ug/L	NA	<0.5	<0.5	<0.5
DI(2-ETHYLHEXYL)PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Coyote Recharge System Station Name		Coyote Creek @ Upper Silver Creek	Coyote Creek @ Blossom Hill Road	Coyote Creek #2	Coyote Pond North
	Station ID	4021_1290+57	4021_1510+00	4021_2046+08	9248_NA
Parameter	**Result Unit**				
DIBENZO (A-H) ANTRACENE	ug/L	NA	<0.5	<0.5	<0.5
DIBROMOCHLOROMETHANE (THM)	ug/L	NA	<0.5	NA	NA
DIBROMOMETHANE	ug/L	NA	<0.5	NA	NA
DICHLORODIFLUOROMETHANE (FREON 12)	ug/L	NA	<0.5	NA	NA
DICHLOROMETHANE	ug/L	NA	<0.5	NA	NA
DIELDRIN	ug/L	NA	<0.25	<0.25	<0.25
DIETHYL PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5
DIISOPROPYL ETHER	ug/L	NA	<2	NA	NA
DIMETHYL PHTHALATE	ug/L	NA	<0.5	<0.5	<0.5
DI-N-BUTYLPHTHALATE	ug/L	NA	<1	<1	<1
DI-N-OCTYLPHTHALATE	ug/L	NA	<1	<1	<1
ENDOSULFAN I	ug/L	NA	<0.25	<0.25	<0.25
ENDOSULFAN II	ug/L	NA	<0.25	<0.25	<0.25
ENDOSULFAN SULFATE	ug/L	NA	<0.25	<0.25	<0.25
ENDRIN	ug/L	NA	<0.25	<0.25	<0.25
ENDRIN ALDEHYDE	ug/L	NA	<0.5	<0.5	<0.5
ENDRIN KETONE	ug/L	NA	<0.5	<0.5	<0.5
EPTC (EPTAM)	ug/L	NA	<0.5	<0.5	<0.5
ETHYL PARATHION	ug/L	NA	<0.5	<0.5	<0.5
ETHYLBENZENE	ug/L	NA	<0.5	NA	NA
ETHYL-TERT-BUTYL ETHER	ug/L	NA	<2	NA	NA
FLUORANTHENE	ug/L	NA	<0.25	<0.2	<0.2
FLUORENE	ug/L	NA	<0.25	<0.2	<0.2
FLUORIDE (NATURAL SOURCE)	mg/L	0.17	0.16	0.15	0.17
GAMMA-BHC (LINDANE)- TOTAL	ug/L	NA	<0.2	<0.2	<0.2
HARDNESS (TOTAL) AS CAC03	ug/L	235	203	160	223
HEPTACHLOR	ug/L	NA	<0.25	<0.25	<0.25
HEPTACHLOR EPOXIDE (Isomer A)	ug/L	NA	<0.5	<0.5	<0.5
HEPTACHLOR EPOXIDE (Isomer B)	ug/L	NA	<0.5	<0.5	<0.5
HEXACHLOROBENZENE	ug/L	NA	<0.25	<0.2	<0.2
HEXACHLOROBUTADIENE	ug/L	NA	<0.5	NA	NA
HEXACHLOROCYCLOPENTADIENE	ug/L	NA	<0.5	<0.5	<0.5
HYDROXIDE ALKALINITY	mg/L	<5	<5	<5	<5
IRON	ug/L	<20	<20	<20	<20
ISOPHORONE	ug/L	NA	<0.5	<0.5	<0.5
ISOPROPYLBENZENE	ug/L	NA	<0.5	NA	NA
LEAD	ug/L	<2	<2	<2	<2
MAGNESIUM	mg/L	30.1	23.4	16.3	25.5
MALATHION	ug/L	NA	<0.25	<0.25	<0.25
MANGANESE	ug/L	<10	<10	<10	<10
METHOXYCHLOR	ug/L	NA	<0.5	<0.5	<0.5
METHYL-TERT-BUTYL-ETHER (MTBE)	ug/L	NA	<2	NA	NA

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Coyote Recharge System Station Name		**Coyote Creek @ Upper Silver Creek**	**Coyote Creek @ Blossom Hill Road**	**Coyote Creek #2**	**Coyote Pond North**
	Station ID	**4021_1290+57**	**4021_1510+00**	**4021_2046+08**	**9248_NA**
Parameter	**Result Unit**				
METOLACHLOR	ug/L	NA	<0.25	<0.25	<0.25
MOLINATE	ug/L	NA	<0.5	<0.5	<0.5
MONOCHLOROBENZENE	ug/L	NA	<0.5	NA	NA
M-P-XYLENE	ug/L	NA	<0.5	NA	NA
NAPHTHALENE	ug/L	NA	<0.375	<0.2	<0.2
N-BUTYLBENZENE	ug/L	NA	<0.5	NA	NA
NICKEL	ug/L	3.87	3.3	3.46	3.16
NITRATE (AS NO3)	mg/L	3.4	5	0.47	8.3
O-XYLENE	ug/L	NA	<0.5	NA	NA
PENTACHLOROPHENOL	ug/L	NA	<1	<1	<1
PHENANTHRENE	ug/L	NA	<0.25	<0.2	<0.2
PHOSPHATE- ORTHO	mg/L	0.05	<0.05	<0.05	<0.05
P-ISOPROPYLTOLUENE	ug/L	NA	<0.5	NA	NA
POTASSIUM	mg/L	2	2	1.8	1.8
PROMETRYN	ug/L	NA	<0.25	<0.2	<0.2
PROPACHLOR	ug/L	NA	<0.5	<0.5	<0.5
PYRENE	ug/L	NA	<0.25	<0.2	<0.2
SEC-BUTYLBENZENE	ug/L	NA	<0.5	NA	NA
SELENIUM	ug/L	<5	<5	<5	<5
SILICA	mg/L	14.7	13.9	10.4	15.9
SILVER	ug/L	<2	<2	<2	<2
SODIUM	mg/L	29.7	25.1	20.2	26.8
SPECIFIC CONDUCTANCE	uS/cm	607	520	404	563
STYRENE	ug/L	NA	<0.5	NA	NA
SULFATE	mg/L	44	42.2	34.4	46.1
TERBACIL	ug/L	NA	<0.5	<0.5	<0.5
TERT-AMYL-METHYL ETHER	ug/L	NA	<2	NA	NA
TERT-BUTYL ALCOHOL	ug/L	NA	<2	NA	NA
TERT-BUTYLBENZENE	ug/L	NA	<0.5	NA	NA
TETRACHLOROETHYLENE	ug/L	NA	<0.5	NA	NA
THALLIUM	ug/L	<1	<1	<1	<1
THIOBENCARB	ug/L	NA	<0.25	<0.2	<0.2
TOLUENE	ug/L	NA	<0.5	NA	NA
TOTAL FILTERABLE RESIDUE @ 180 C (TDS)	mg/L	326	292	232	320
TRANS-1-2-DICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA
TRANS-1-3-DICHLOROPROPENE	ug/L	NA	<0.5	NA	NA
TRANS-NONACHLOR	ug/L	NA	<0.25	<0.25	<0.25
TRANS-PERMETHRIN	ug/L	NA	<0.5	<0.5	<0.5
TRICHLOROETHYLENE	ug/L	NA	<0.5	NA	NA
TRICHLOROFLUOROMETHANE (FREON 11)	ug/L	NA	<2.5	NA	NA
TRIFLURALIN	ug/L	NA	<0.5	<0.5	<0.5
TURBIDITY- LABORATORY	NTU	0.15	0.15	0.15	0.16

TABLE 5. Analytical Results for Sampling Event 2 – March 8 & 9, 2011 (continued)

Coyote Recharge System Station Name		Coyote Creek @ Upper Silver Creek	Coyote Creek @ Blossom Hill Road	Coyote Creek #2	Coyote Pond North
Station ID		4021_1290+57	4021_1510+00	4021_2046+08	9248_NA
Parameter	**Result Unit**				
VANADIUM	ug/L	3.4	<3	<3	<3
VINYL CHLORIDE	ug/L	NA	<0.5	NA	NA
XYLENES (TOTAL)	ug/L	NA	<0.5	NA	NA
ZINC	ug/L	<10	<10	<10	<10

Notes: ug/l = micrograms per liter; mg/l = milligrams per liter; uS/cm = micro Siemens per centimeter; NA = not analyzed

TABLE 6. Analytical Results for Sampling Event 3 – April 6 & 7, 2011

Stevens Creek Recharge System Station Name		**Stevens Creek #1**	**Stevens Creek #2**	**Stevens Creek #3**
	Station ID	**1029_457+65**	**1029_572+51**	**1029_514+81**
Parameter	**Result Unit**			
ALKALINITY (TOTAL) AS CACO3	mg/L	175	172	170
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	175	172	170
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	<5	<5
ALKALINITY- HYDROXIDE (AS CACO3)	mg/L	<5	<5	<5
ALUMINUM	ug/L	<20	<20	<20
ANTIMONY	ug/L	<2	<2	<2
ARSENIC	ug/L	<2	<2	<2
BARIUM	ug/L	74	71.8	88.3
BERYLLIUM	ug/L	<1	<1	<1
BORON	ug/L	86	84.8	88.3
BROMIDE	mg/L	<0.05	<0.05	<0.05
CADMIUM	ug/L	<1	<1	<1
CALCIUM	mg/L	49	47.5	49.4
CALCIUM	mg/L	122	119	124
CHLORIDE	mg/L	16	12	13
CHROMIUM	ug/L	<1	<1	<1
COPPER	ug/L	<2	<2	<2
FLUORIDE (NATURAL SOURCE)	mg/L	0.14	0.14	0.14
HARDNESS (TOTAL) AS CAC03	mg/L	197	186	193
IRON	ug/L	<20	<20	<20
LEAD	ug/L	<2	<2	<2
MAGNESIUM	mg/L	16.7	16	16.8
MANGANESE	ug/L	<10	<10	<10
NICKEL	ug/L	<2	<2	<2
NITRATE (AS NO3)	mg/L	0.6691	0.4303	0.6221
PHOSPHATE- ORTHO	mg/L	0.05	0.06	0.06
POTASSIUM	mg/L	1.3	1.3	1.3
SELENIUM	ug/L	<5	<5	<5
SILICA	mg/L	16.7	16.5	17
SILVER	ug/L	<2	<2	<2
SODIUM	mg/L	15.5	14.9	15.6
SPECIFIC CONDUCTANCE	umhos	419	407	412
SULFATE	mg/L	26.6	25.4	26.2
THALLIUM	ug/L	<1	<1	<1
TOTAL FILTERABLE RESIDUE (TDS)	mg/L	238	218	244
TURBIDITY- LABORATORY	NTU	9.6	10	9.1
VANADIUM	ug/L	<3	<3	<3
ZINC	ug/L	<10	<10	<10

TABLE 6. Analytical Results for Sampling Event 3 – April 6 & 7, 2011 (continued)

Guadalupe Recharge System Station Name		Alamitos Creek @ Graystone Lane	Ross Creek @ Jarvis Avenue
Station ID		3010_110+803	3023_40+395
Parameter	**Result Unit**		
ALKALINITY (TOTAL) AS CACO3	mg/L	170	249
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	170	208
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	41
ALKALINITY- HYDROXIDE (AS CACO3)	mg/L	<5	<5
ALUMINUM	ug/L	<20	<20
ANTIMONY	ug/L	<2	<2
ARSENIC	ug/L	<2	2
BARIUM	ug/L	55.3	110
BERYLLIUM	ug/L	<1	<1
BORON	ug/L	89.7	91.2
BROMIDE	mg/L	<0.05	0.18
CADMIUM	ug/L	<1	<1
CALCIUM	mg/L	33.2	70.8
CALCIUM	mg/L	83	177
CHLORIDE	mg/L	13	109
CHROMIUM	ug/L	1.733	<1
COPPER	ug/L	<2	2.594
FLUORIDE (NATURAL SOURCE)	mg/L	0.11	0.19
HARDNESS (TOTAL) AS CAC03	mg/L	184	376
IRON	ug/L	<20	<20
LEAD	ug/L	<2	<2
MAGNESIUM	mg/L	24.6	44.3
MANGANESE	ug/L	<10	<10
NICKEL	ug/L	2.565	3.717
NITRATE (AS NO3)	mg/L	1.8127	8.9
PHOSPHATE- ORTHO	mg/L	<0.05	0.19
POTASSIUM	mg/L	0.9	1.8
SELENIUM	ug/L	<5	<5
SILICA	mg/L	20.4	21.3
SILVER	ug/L	<2	<2
SODIUM	mg/L	13	63
SPECIFIC CONDUCTANCE	umhos	385	975
SULFATE	mg/L	13.9	99.8
THALLIUM	ug/L	<1	<1
TOTAL FILTERABLE RESIDUE (TDS)	mg/L	214	556
TURBIDITY- LABORATORY	NTU	6.4	1.2
VANADIUM	ug/L	<3	4.8
ZINC	ug/L	<10	<10

TABLE 6. Analytical Results for Sampling Event 3 – April 6 & 7, 2011 (continued)

Coyote Recharge System Station Name		**Coyote Creek @ Upper Silver Creek**	**Coyote Creek @ Blossom Hill Road**	**Coyote Creek #2**	**Coyote Pond North**	**Coyote Pond South**
Station ID		**4021_1290+57**	**4021_1510+00**	**4021_2046+08**	**9248_NA**	**9248_S**
Parameter	**Result Unit**					
ALKALINITY (TOTAL) AS CACO3	mg/L	135	133	123	134	135
ALKALINITY- BICARBONATE (AS CACO3)	mg/L	135	133	123	134	135
ALKALINITY- CARBONATE (AS CACO3)	mg/L	<5	<5	<5	<5	<5
ALKALINITY- HYDROXIDE (AS CACO3)	mg/L	<5	<5	<5	<5	<5
ALUMINUM	ug/L	<20	<20	<20	<20	<20
ANTIMONY	ug/L	<2	<2	<2	<2	<2
ARSENIC	ug/L	<2	<2	2	<2	<2
BARIUM	ug/L	67.5	67.1	66.8	69.3	66.1
BERYLLIUM	ug/L	<1	<1	<1	<1	<1
BORON	ug/L	96.4	97.1	96.5	96.9	94.3
BROMIDE	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
CADMIUM	ug/L	<1	<1	<1	<1	<1
CALCIUM	mg/L	33.3	33.6	32	33.8	32.6
CALCIUM	mg/L	83.2	84	80	84.5	81.5
CHLORIDE	mg/L	14	14	11	14	14
CHROMIUM	ug/L	<1	<1	<1	<1	<1
COPPER	ug/L	2.597	2.297	2.366	2.228	2.024
FLUORIDE (NATURAL SOURCE)	mg/L	0.13	0.13	0.13	0.14	0.13
HARDNESS (TOTAL) AS CAC03	mg/L	149	149	135	149	148
IRON	ug/L	<20	<20	<20	21.5	<20
LEAD	ug/L	<2	<2	<2	<2	<2
MAGNESIUM	mg/L	16	15.9	14	15.9	15.3
MANGANESE	ug/L	<10	<10	<10	<10	<10
NICKEL	ug/L	3.377	3.308	3.103	3.233	3.196
NITRATE (AS NO3)	mg/L	1.8696	1.9617	0.7218	2.2	2.1
PHOSPHATE- ORTHO	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
POTASSIUM	mg/L	1.8	1.8	1.8	1.8	1.8
SELENIUM	ug/L	<5	<5	<5	<5	<5
SILICA	mg/L	10.8	10.8	11.2	11.2	10.8
SILVER	ug/L	<2	<2	<2	<2	<2
SODIUM	mg/L	18.4	18.5	17.1	18.3	17.8
SPECIFIC CONDUCTANCE	umhos	357	356	320	353	350
SULFATE	mg/L	29.7	29.9	28.1	30	30.4
THALLIUM	ug/L	<1	<1	<1	<1	<1
TOTAL FILTERABLE RESIDUE (TDS)	mg/L	186	194	186	188	192
TURBIDITY- LABORATORY	NTU	26	26	29	27	30
VANADIUM	ug/L	<3	<3	<3	<3	<3
ZINC	ug/L	<10	<10	<10	<10	<10

Notes: ug/l = micrograms per liter; mg/l = milligrams per liter; uS/cm = micro Siemens per centimeter; NA = not analyzed

TABLE 7. Stevens Creek Recharge System Water Quality Indicators

Parameter	Units	Event 1 December 2010	Event 2 March 2011	Event 3 April 2011	All Events
TDS	mg/L	310	276	238	276
Alkalinity (as CaCO3)	mg/L	211	179	172	179
Chloride	mg/L	22	17	13	17
Sulfate	mg/L	40.2	32	26.2	32
pH - Field	pH Units	8.01	8.13	8.27	8.11
Nitrate (as NO3)	mg/L	0.45	0.78	0.62	0.6
Aluminum	mg/L	<20	<20	<20	<20
Iron	mg/L	<20	<20	<20	<20

The value shown is the median of all stations in the system.

TABLE 8. Guadalupe Recharge System Water Quality Indicators

Parameter	Units	Event 1 December 2010	Event 2 March 2011	Event 3 April 2011	All Events
TDS	mg/L	330	442	385	330
Alkalinity (as CaCO3)	mg/L	158.5	208	209.5	191
Chloride	mg/L	62.5	75.5	61	62.5
Sulfate	mg/L	36.1	66.2	56.8	43
pH - Field	pH Units	7.99	8.24	7.4	7.87
Nitrate (as NO3)	mg/L	2.46	4.1	5.35	2.51
Aluminum	mg/L	<20	<20	<20	<20
Iron	mg/L	<20	<20	<20	<20

The value shown is the median of all stations in the system.

TABLE 9. Coyote Recharge System Water Quality Indicators

Parameter	Units	Event 1 December 2010	Event 2 March 2011	Event 3 April 2011	All Events
TDS	mg/L	330	306	188	268
Alkalinity (as CaCO3)	mg/L	175	171.5	134	146
Chloride	mg/L	46	27.5	14	21
Sulfate	mg/L	47	43.1	29.9	37.25
pH - Field	pH Units	7.9	7.8	7.84	7.84
Nitrate (as NO3)	mg/L	2.9	4.2	1.96	2.25
Aluminum	mg/L	<20	<20	<20	<20
Iron	mg/L	<20	<20	<20	<20

The value shown is the median of all stations in the system.

TABLE 10. Comparison of Median Recharge Water Quality and Groundwater Quality

Parameter	Units	Recharge Water Quality[1]			Groundwater Quality[2]				
					Santa Clara Subbasin			Llagas Subbasin	
		Stevens Creek Recharge System	Guadalupe Recharge System	Coyote Recharge System	Santa Clara Plain Shallow Zone	Santa Clara Plain Principal Zone	Coyote Valley	Shallow Zone	Principal Zone
Alkalinity (Total, as CaCO3)	mg/L	179	191	146	288	230	200	221	192
Aluminum	mg/L	<20	<20	<20	<50	<50	<50	<20	<50
Chloride	mg/L	17	62.5[4]	21	53.8	46	44.5	44	50
Iron	mg/L	<20	<20	<20	<100	<100	<100	<20	<100
Nitrate (as NO3)	mg/L	0.6	2.51	2.25	6.8	15	9.3	43.9	23
pH[3]	pH Units	8.11	7.87	7.84	7.4	7.6	7.6	7.2	7.41
Sulfate	mg/L	32	43	37.25	55	43	36	51.2	37.5
Total Dissolved Solids (TDS)	mg/L	276	330	268	467	400	340	484	340

Notes:
1. Based on samples collected in FY 2011. The Stevens Creek system and Guadalupe systems contain facilities that recharge the Santa Clara Subbasin. Most facilities monitored in the Coyote system provide recharge to the Santa Clara Subbasin, although the Main Avenue Ponds recharge the Llagas Subbasin.
2. From 2010 Groundwater Quality Report.
3. Recharge water quality pH data are measured in the field. Groundwater values are laboratory measured values.
4. Increased concentrations are believed to be due to runoff entering Ross Creek (see Section 4).

APPENDIX C – LABORATORY QUALITY ASSURANCE/QUALITY CONTROL

The Quality Control (QC) report for Event 1 (December 2010) included only one QC test result (Surrogate chemical used) not in the acceptable range - Triphenylphosphate. The QC test was above the acceptable range. The pH test results for this event were reported as exceeding the holding time limit. However, this report relied on pH measurements made in the field.

The QC test results for Event 2 (March 2011) had data qualifiers for several test results outside of the acceptable recovery range. The associated chemicals with QC test results below the acceptable range were: nitrate, anthracene, benzo(a)pyrene, metribuzin, simazine, and perylene-d12. Chemicals with QC test results above the acceptable range were: di-n-butylphthalate, endrin, Di (2-ethylhexyl) adipate, and pentachlorophenol. With the exception of nitrate, none of these chemicals were detected in any of the surface water samples and laboratory fortified blank sample recoveries were within the acceptable range.

The QC test results for Event 3 (April 2011) had QC qualifiers for nitrate. Some nitrate QC test results were below the acceptable recovery range. The nitrate QC tests out of range were for matrix samples; however the laboratory fortified blank samples recoveries were within the acceptable range.

With the exception of the laboratory pH data (which was not used due to the availability of field measurements), no data were qualified or omitted for quality control/quality assurance purposes.

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